ADOPTED RULES

Adopted rules include new rules, amendments to existing rules, and repeals of existing rules. A rule adopted by a state agency takes effect 20 days after the date on which it is filed with the Secretary of State unless a later date is required by statute or specified in the rule (Government Code, §2001.036). If a rule is adopted without change to the text of the proposed rule, then the *Texas Register* does not republish the rule text here. If a rule is adopted with change to the text of the proposed rule, then the final rule text is included here. The final rule text will appear in the Texas Administrative Code on the effective date.

TITLE 1. ADMINISTRATION

PART 15. TEXAS HEALTH AND HUMAN SERVICES COMMISSION

CHAPTER 395. CIVIL RIGHTS

The Texas Health and Human Services Commission (HHSC) adopts new Chapter 395, Civil Rights, Subchapter A, General Provisions, consisting of §395.1, concerning purpose, and §395.2, concerning definitions; Subchapter B, Responsibilities of Health and Human Services Agencies, consisting of §395.11, concerning health and human services (HHS) agency responsibilities, and §395.12, concerning role of the HHSC Civil Rights Office (CRO); Subchapter C, Complaints, consisting of §395.21, concerning complaints and complaint procedures, and §395.22, concerning complaint records; Subchapter D, Compliance Monitoring, consisting of §395.31, concerning HHS agency compliance, and §395.32, concerning contractor compliance; and Subchapter E, Employment Practices, consisting of §395.41, concerning employment practices. New §395.2 is adopted with changes to the proposed text as published in the January 21, 2011, issue of the *Texas Register* (36 TexReg 193) and will be republished. New §§395.1, 395.11, 395.12, 395.21, 395.22, 395.31, 395.32, and 395.41 are adopted without changes to the proposed text as published in the January 21, 2011, issue of the *Texas Register* (36 TexReg 193) and will not be republished.

Background and Justification

The restructuring of HHS agencies under House Bill 2292, 78th Legislature, Regular Session, 2003, resulted in a consolidated civil rights office serving the HHS system, administratively housed at HHSC. The current functions of the CRO encompass a wide array of activities serving both HHS employees and external stakeholders.

Before the restructuring, the Texas Department of Human Services maintained rules governing agency civil rights practices in its rule base in the Texas Administrative Code (TAC). Since the restructuring, the Department of Aging and Disability Services (DADS) has maintained the rules in 40 TAC Chapter 73. Because HHSC houses the CRO, it is appropriate that the rules governing HHS agency civil rights activities be located in HHSC's rule base. The rules being adopted in new 1 TAC Chapter 395 will replace the DADS rules. HHSC, on behalf of DADS, is concurrently adopting the repeal of 40 TAC Chapter 73 elsewhere in this issue of the *Texas Register.*

The new rules are adopted to establish rules regarding civil rights that will apply to all HHS agencies. For purposes of this chapter, an HHS agency is defined as HHSC and the Texas health and human services agencies identified in §531.001(4) of the Government Code. The agencies currently identified in §531.001(4) of the Government Code are the Department of Aging and Disability Services, the Department of Assistive and Rehabilitative Services, the Department of Family and Protective Services, and the Department of State Health Services.

The new sections are also adopted to: (1) implement federal and state civil rights laws and regulations that prohibit discrimination in programs and services administered directly by or through contract or other arrangements with the HHS agencies; (2) describe the civil rights responsibilities of the HHS agencies; and (3) establish the role of the HHSC CRO in implementing federal and state civil rights laws and regulations governing HHS agencies.

Comments

HHSC received no comments regarding adoption of the new sections. However, HHSC is making a technical correction to §395.2. HHSC deleted the phrase "HHSC or" from the proposed definition of "Applicant" in §395.2(1), because HHSC is included in the term "HHS agency" in Chapter 395.

SUBCHAPTER A. GENERAL PROVISIONS

1 TAC §395.1, §395.2

Legal Authority

The new sections are adopted under Texas Government Code, §531.0055, which provides the Executive Commissioner of HHSC with rulemaking authority.

§395.2. Definitions.

The following words and terms, when used in this chapter, have the following meanings unless the context clearly indicates otherwise.

(1) Applicant--A person who applies in writing, electronically, orally, or through a designated representative to participate in a program funded, in whole or in part, by an HHS agency.

(2) Complainant--A person who alleges discrimination in access to or the delivery of program services or benefits funded, in whole or in part, by an HHS agency on the basis of race, color, national origin, age, sex, disability, religion, or political belief. (Not all bases apply to all programs.) Political belief is considered a protected class only in the Supplemental Nutrition Assistance Program (SNAP). Other groups may be added as protected classes pursuant to applicable federal or state statutes or rules.

(3) Complaint--An oral or written allegation of discrimination or retaliation made by a complainant.

(4) Contractor--An entity that contracts or agrees through other arrangements with a state agency to provide services or benefits on behalf of an HHS agency. This includes any subcontractor that provides services or benefits on behalf of an HHS agency.

EXHIBIT 1

(5) Discrimination--Treatment of an individual that is based on his or her membership in a legally protected class and that has an adverse effect on the individual.

(6) Electronic and information resources (EIR)--Information technology and any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion, or duplication of data or information. EIR includes telecommunication products, information kiosks, transaction machines, websites, multimedia, and office equipment.

(7) HHS agency--The Texas Health and Human Services Commission and the Texas health and human services agencies identified in Government Code §531.001(4).

(8) HHSC--The Texas Health and Human Services Commission.

(9) HHSC Civil Rights Office (CRO)--The functional area within HHSC responsible for ensuring that the HHS agencies comply with applicable state and federal civil rights laws and regulations as well as HHSC's civil rights policies and procedures.

(10) Limited English proficiency (LEP)--A term describing individuals who do not speak English as their primary language and who have limited ability to read, speak, write, or understand English.

(11) Participant--An individual who receives assistance, services, or benefits under any HHS agency program or service.

(12) Protected class--A group or class of persons having a characteristic, quality, belief, or status defined by federal and state civil rights laws and regulations as protected from discrimination. Protected classes or groups, which differ between programs, include race, color, national origin, sex, age, religion, or disability, and may include political belief. Political belief is considered a protected class only in SNAP. Veteran status is a protected class only as to employment-related complaints pursuant to state and federal law. Other groups may be added as protected classes pursuant to applicable federal or state statute or rules.

(13) Retaliation--Adverse treatment of an individual because he or she filed a complaint, participated in the complaint process, or otherwise opposed discriminatory practices.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 19, 2011.

TRD-201101475
Steve Aragon
Chief Counsel
Texas Health and Human Services Commission
Effective date: May 9, 2011
Proposal publication date: January 21, 2011
For further information, please call: (512) 424-6900

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SUBCHAPTER B. RESPONSIBILITIES OF HEALTH AND HUMAN SERVICES AGENCIES

1 TAC §395.11, §395.12

Legal Authority

The new sections are adopted under Texas Government Code, §531.0055, which provides the Executive Commissioner of HHSC with rulemaking authority.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Steve Aragon
Chief Counsel
Texas Health and Human Services Commission
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For further information, please call: (512) 424-6900

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SUBCHAPTER C. COMPLAINTS

1 TAC §395.21, §395.22

Legal Authority

The new sections are adopted under Texas Government Code, §531.0055, which provides the Executive Commissioner of HHSC with rulemaking authority.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Steve Aragon
Chief Counsel
Texas Health and Human Services Commission
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For further information, please call: (512) 424-6900

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SUBCHAPTER D. COMPLIANCE MONITORING

1 TAC §395.31, §395.32

Legal Authority

The new sections are adopted under Texas Government Code, §531.0055, which provides the Executive Commissioner of HHSC with rulemaking authority.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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EXHIBIT 1

Steve Aragon
Chief Counsel
Texas Health and Human Services Commission
Effective date: May 9, 2011
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SUBCHAPTER E. EMPLOYMENT PRACTICES

1 TAC §395.41

Legal Authority

The new sections are adopted under Texas Government Code, §531.0055, which provides the Executive Commissioner of HHSC with rulemaking authority.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Steve Aragon
Chief Counsel
Texas Health and Human Services Commission
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For further information, please call: (512) 424-6900

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TITLE 4. AGRICULTURE

PART 1. TEXAS DEPARTMENT OF AGRICULTURE

CHAPTER 19. QUARANTINES AND NOXIOUS AND INVASIVE PLANTS
SUBCHAPTER W. RED PALM MITE QUARANTINE

4 TAC §19.601, §19.602

The Texas Department of Agriculture (the department) adopts amendments to §19.601 and §19.602, concerning the quarantined area and the list of quarantine articles for the Red Palm Mite Quarantine, without changes to the proposed text as published in the March 18, 2011, issue of the *Texas Register* (36 TexReg 1781). This quarantine listed four counties in the State of Florida as the quarantined area and over 48 species of plants, primarily palm species, as quarantined articles. However, the recent information received from the Florida Department of Agriculture and Consumer Services, Division of Plant Industry (DPI) indicated that eight Florida counties are infested with the red palm mite and the mite host list has expanded to over 62 plant species. The adopted amendments add Collier, Lee, Martin and St. Lucie counties to the list of quarantined area and also add Coyure, ruffle or spine palm; Alexander or king palm; Gomuti or sugar palm; giant windowpane palm; Kentia or sentry palm; Pindo or jelly palm; Miraguama palm; Talipot palm; Florida royal palm; silver pimento palm; Florida thatch palm; Manila palm; *Washingtonia* species; and *Heliconia* species to the list of the red palm mite host plants. Amendments also correct misspelled scientific names and arrange plant species in logical order. The amendments take necessary steps to prevent man-made introduction of the red palm mite from counties newly recognized as infested and from plant species recently designated as hosts of this mite.

The department believes it is necessary to take this action to prevent man-made introduction of the red palm mite into Texas. The palm nursery industry, landscapers, homeowners and others who use palms are in peril because without the amendments, chances of introduction of this mite into Texas increase significantly. The mite is not known to occur in Texas and it poses a serious threat to the state's palm nurseries and to residential properties, shopping malls, businesses, and other areas where palms are used for landscaping. Heavy infestation of this mite can cause significant loss of the foliage. Updating the red palm mite quarantined area and the mite host list, would ensure that shipments impacted by the adopted amendments would also receive DPI's mite-free certification, thereby reducing threat of this pest introduction into Texas.

Amended §19.601 adds Collier, Lee, Martin and St. Lucie counties of Florida to the quarantined area. Amended §19.602 adds over 14 species of plants, mostly palm species, to the list of quarantined articles.

No comments were received on the proposal.

The amendments are adopted under the Texas Agriculture Code, §71.001, which authorizes the department to establish a quarantine against out-of-state diseases and pests; and §71.007, which authorizes the department to adopt rules as necessary to protect agricultural and horticultural interests, including rules to provide for specific treatment of a grove or orchard or of infested or infected plants, plant products, or substances.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

TRD-201101552
Dolores Alvarado Hibbs
General Counsel
Texas Department of Agriculture
Effective date: May 15, 2011
Proposal publication date: March 18, 2011
For further information, please call: (512) 463-4075

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TITLE 19. EDUCATION

PART 2. TEXAS EDUCATION AGENCY

CHAPTER 61. SCHOOL DISTRICTS
SUBCHAPTER AA. COMMISSIONER'S RULES ON SCHOOL FINANCE

19 TAC §61.1011

The Texas Education Agency (TEA) adopts the repeal of §61.1011, concerning public education grant (PEG) supplemen-

EXHIBIT 1

tal payments. The repeal is adopted without changes to the proposed text as published in the February 25, 2011, issue of the *Texas Register* (36 TexReg 1212) and will not be republished. The section establishes provisions for a supplemental PEG allotment payment to districts with a certain wealth per student. The adopted repeal is necessary because of changes made to school finance law by House Bill (HB) 1, 79th Texas Legislature, Third Called Session, 2006.

The Texas Education Code (TEC), §29.203(b), as added by HB 318, 75th Texas Legislature, 1997, authorized the commissioner of education to adopt rules to implement the provision of a supplemental PEG allotment payment to districts with a certain wealth per student. The commissioner exercised rulemaking authority to adopt 19 TAC §61.1011, Public Education Grant Supplemental Payments, effective September 1, 1998.

Section 61.1011 establishes a PEG supplemental payment calculation for supplemental payments to districts "with property wealth per student greater than the guaranteed wealth level but less than the equalized wealth level." Because of statutory changes made by HB 1, 79th Texas Legislature, Third Called Session, 2006, that modified the state school finance system, this category of school districts no longer exists, and the calculation methodology provided in the rule is obsolete.

The adopted repeal of 19 TAC §61.1011 repeals an outdated rule.

The adopted repeal has no procedural and reporting implications. The adopted repeal has no locally maintained paperwork requirements.

The TEA determined there is no direct adverse economic impact for small businesses and microbusinesses; therefore, no regulatory flexibility analysis, specified in Texas Government Code, §2006.002, is required.

The public comment period on the proposal began February 25, 2011, and ended March 28, 2011. No public comments were received.

The repeal is adopted under the TEC, §29.203(b), which authorizes the commissioner of education to adopt rules to implement the provision of a supplemental public education grant allotment payment to districts with a certain wealth per student.

The repeal implements the TEC, §29.203(b).

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 19, 2011.

TRD-201101484
Cristina De La Fuente-Valadez
Director, Policy Coordination
Texas Education Agency
Effective date: May 9, 2011
Proposal publication date: February 25, 2011
For further information, please call: (512) 475-1497

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19 TAC §61.1016

The Texas Education Agency (TEA) adopts the repeal of §61.1016, concerning school finance. The repeal is adopted without changes to the proposed text as published in the February 25, 2011, issue of the *Texas Register* (36 TexReg 1213) and will not be republished. The section establishes provisions for additional funds under House Bill (HB) 1, General Appropriations Act, Rider 82, 78th Texas Legislature, 2003. The adopted repeal is necessary to remove obsolete provisions from rule. The rule provided for the administration of an allotment that is no longer available, and its provisions were applicable only to certain school years that have already passed.

HB 1, General Appropriations Act, Rider 82, 78th Texas Legislature, 2003, authorized additional funding to school districts and charter schools in the amount of $110 per student in weighted average daily attendance (WADA) for the 2003-2004 and 2004-2005 school years. The rider directed the TEA to adopt rules as necessary to carry out this provision, and the TEA, after consultation with the Office of the Governor and the Legislative Budget Board, adopted 19 TAC §61.1016 in response to this directive.

The 79th Texas Legislature reauthorized the $110 per WADA allotment through Senate Bill 1, General Appropriations Act, Rider 69, in 2005. However, with the subsequent passage of HB 1 by the 79th Texas Legislature, Third Called Session, 2006, this allotment was subsumed within each district's "revenue target," the amount of state and local funding guaranteed to the district for adopting a specified maintenance and operations tax rate.

Although districts still received the benefit of the allotment in the calculation of their revenue targets--and continue to receive the benefit since the current revenue target is based on the funding received in prior school years--districts no longer receive a direct allotment, and no specific appropriation for the allotment has been made since the 2005-2006 biennium.

The adopted repeal of 19 TAC §61.1016 repeals a rule that is no longer necessary.

The adopted repeal has no procedural and reporting implications. The adopted repeal has no locally maintained paperwork requirements.

The TEA determined that there is no direct adverse economic impact for small businesses and microbusinesses; therefore, no regulatory flexibility analysis, specified in Texas Government Code, §2006.002, is required.

The public comment period on the proposal began February 25, 2011, and ended March 28, 2011. No public comments were received.

The repeal is adopted under HB 1, General Appropriations Act, Rider 82, 78th Texas Legislature, 2003, which authorized the TEA to develop and promulgate rules as necessary to carry out the delivery of funds specifically authorized in Rider 82.

The repeal implements HB 1, General Appropriations Act, Rider 82, 78th Texas Legislature, 2003.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 19, 2011.

TRD-201101485

EXHIBIT 1

Cristina De La Fuente-Valadez
Director, Policy Coordination
Texas Education Agency
Effective date: May 9, 2011
Proposal publication date: February 25, 2011
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CHAPTER 62. COMMISSIONER'S RULES CONCERNING THE EQUALIZED WEALTH LEVEL

19 TAC §62.1061

The Texas Education Agency (TEA) adopts the repeal of §62.1061, concerning the equalized wealth level. The repeal is adopted without changes to the proposed text as published in the February 25, 2011, issue of the *Texas Register* (36 TexReg 1214) and will not be republished. The section establishes provisions relating to the election of trustees of districts consolidated by the commissioner of education. The adopted repeal removes a provision from rule that is specified in statute.

The Texas Education Code (TEC), §41.006(b), permits the commissioner to modify the date specified in the TEC, §41.253(b), for elections of trustees of school districts consolidated by the commissioner. The commissioner exercised rulemaking authority to adopt 19 TAC §62.1061, Election of Trustees of District Consolidated by Commissioner, effective September 13, 1993, and amended to be effective May 7, 2003. Subsequently, the date specified in the TEC, §41.253(b), was amended by House Bill 57, Section 4, 79th Texas Legislature, 2005, to be the same as the date specified in 19 TAC §62.1061. Because the election date the rule was created to modify has been modified in statute, the rule is no longer needed.

The adopted repeal has no procedural and reporting implications. The adopted repeal has no locally maintained paperwork requirements.

The TEA determined that there is no direct adverse economic impact for small businesses and microbusinesses; therefore, no regulatory flexibility analysis, specified in Texas Government Code, §2006.002, is required.

The public comment period on the proposal began February 25, 2011, and ended March 28, 2011. No public comments were received.

The repeal is adopted under the TEC, §41.006, which authorizes the commissioner of education to adopt rules necessary for the implementation of the TEC, Chapter 41, Equalized Wealth Level.

The repeal implements the TEC, §41.006.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 19, 2011.

TRD-201101486

Cristina De La Fuente-Valadez
Director, Policy Coordination
Texas Education Agency
Effective date: May 9, 2011
Proposal publication date: February 25, 2011
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CHAPTER 62. COMMISSIONER'S RULES CONCERNING THE EQUALIZED WEALTH LEVEL

The Texas Education Agency (TEA) adopts the repeal of and new §62.1071, concerning the equalized wealth level. The repeal and new section are adopted without changes to the proposed text as published in the February 25, 2011, issue of the *Texas Register* (36 TexReg 1214) and will not be republished. The section establishes provisions relating to the administration of wealth equalization. The adopted repeal removes outdated provisions from rule. The adopted new section replaces those outdated provisions with a manual on wealth equalization requirements that will be updated and adopted as a part of the Texas Administrative Code (TAC) each year.

Through 19 TAC §62.1071, adopted to be effective June 11, 1998, and last amended to be effective May 9, 2004, the commissioner exercised rulemaking authority relating to administration of wealth equalization.

Current 19 TAC §62.1071, Administration of Wealth Equalization, adopted for repeal describes identification of school districts subject to wealth equalization; provides an alternative calculation of wealth, now outdated, for certain districts; explains how property-wealthy districts are to equalize wealth; provides a method for calculating costs to equalize wealth, now obsolete; sets forth administrative requirements, now outdated; provides consequences for noncompliance; explains that a certain exemption, now obsolete, does not apply for purposes of wealth equalization; and describes how adjustments to property value for property value declines are made. Repeal of the rule is necessary to remove outdated and obsolete provisions from rule.

The most current requirements that school districts subject to wealth equalization must meet are specified in each annual manual for districts subject to wealth equalization. Legal counsel with the TEA has advised that the procedures contained in each annual manual for districts subject to wealth equalization be adopted as part of the TAC. Adopted new 19 TAC §62.1071, Manual for Districts Subject to Wealth Equalization, adopts in rule the official TEA publication *Manual for Districts Subject to Wealth Equalization 2010-2011 School Year,* revised January 2011, as Figure: 19 TAC §62.1071(a). The intent is to annually update 19 TAC §62.1071 to refer to the most recently published manual. Manuals adopted for previous school years will remain in effect with respect to those school years.

Each annual manual for districts subject to wealth equalization explains how districts subject to wealth equalization are identified; the fiscal, procedural, and administrative requirements those districts must meet; and the consequences for not meeting requirements. The manual also provides information on using the online Foundation School Program (FSP) System to fulfill certain requirements.

EXHIBIT 1

The adopted rule actions place the specific procedures contained in the *Manual for Districts Subject to Wealth Equalization 2010-2011 School Year* in the TAC. The TEA administers the wealth equalization provisions of the Texas Education Code (TEC), Chapter 41, according to the procedures specified in each annual manual for districts subject to wealth equalization. Data reporting requirements are addressed primarily through the online FSP System. A district that is subject to the provisions of the TEC, Chapter 41, and that wishes to be considered for a property value adjustment based on a rapid decline in property value must submit a form indicating the district's estimated taxable value for the current year to the TEA by mail or fax. The form must be signed by the chief appraiser of the county appraisal district. The adopted rule actions have no locally maintained paperwork requirements.

The TEA determined there is no direct adverse economic impact for small businesses and microbusinesses; therefore, no regulatory flexibility analysis, specified in Texas Government Code, §2006.002, is required.

The public comment period on the proposal began February 25, 2011, and ended March 28, 2011. No public comments were received.

19 TAC §62.1071

The repeal is adopted under the TEC, §41.006, which authorizes the commissioner of education to adopt rules necessary for the implementation of the TEC, Chapter 41.

The repeal implements the TEC, §41.006.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 19, 2011.

TRD-201101487
Cristina De La Fuente-Valadez
Director, Policy Coordination
Texas Education Agency
Effective date: May 9, 2011
Proposal publication date: February 25, 2011
For further information, please call: (512) 475-1497

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19 TAC §62.1071

The new section is adopted under the TEC, §41.006, which authorizes the commissioner of education to adopt rules necessary for the implementation of the TEC, Chapter 41.

The new section implements the TEC, §41.006.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 19, 2011.

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Cristina De La Fuente-Valadez
Director, Policy Coordination
Texas Education Agency
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TITLE 22. EXAMINING BOARDS

PART 5. STATE BOARD OF DENTAL EXAMINERS

CHAPTER 108. PROFESSIONAL CONDUCT
SUBCHAPTER C. ANESTHESIA AND ANESTHETIC AGENTS

22 TAC §§108.30 - 108.35

The State Board of Dental Examiners (SBDE) adopts the repeal of Chapter 108, Subchapter C, relating to Anesthesia and Anesthetic Agents. Subchapter C is comprised of §108.30, relating to Effective Date, §108.31, relating to Definitions, §108.32, relating to Minimum Standard of Care, Anesthesia, §108.33, relating to Sedation/Anesthesia Permit, §108.34, relating to Permit Requirements and Clinical Provisions, and §108.35, relating to Authority to Demonstrate Anesthesia. The repeal is adopted without changes to the proposal as published in the December 17, 2010, issue of the *Texas Register* (35 TexReg 11154).

The repeal is adopted so that the SBDE may publish revised anesthesia and sedation rules. Concurrent with this repeal is the adoption of new anesthesia rules contained in new Chapter 110.

No comments were received regarding adoption of the repeal.

The repeal is adopted under Texas Occupations Code §254.001, which provides the Board with the authority to adopt and enforce rules necessary for it to perform its duties.

The repeal affects Texas Occupations Code, Title 3, Subtitle D and Texas Administrative Code, Title 22, Part 5.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 20, 2011.

TRD-201101515
Sherri Sanders Meek
Executive Director
State Board of Dental Examiners
Effective date: May 10, 2011
Proposal publication date: December 17, 2010
For further information, please call: (512) 475-0972

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CHAPTER 110. ENTERAL CONSCIOUS SEDATION

22 TAC §§110.1 - 110.4

EXHIBIT 1

The State Board of Dental Examiners (SBDE) adopts the repeal of Chapter 110, relating to Enteral Conscious Sedation. Chapter 110 is comprised of §110.1, relating to Definitions, §110.2, relating to Permit, §110.3, relating to Permit Requirements and Clinical Provisions, and §110.4, relating to Effective Date. The repeal is adopted without changes to the proposal as published in the December 17, 2010, issue of the *Texas Register* (35 TexReg 11155).

The repeal is adopted so that the SBDE may publish revised anesthesia and sedation rules. Concurrent with this repeal is the adoption of new anesthesia rules contained in new Chapter 110.

No comments were received regarding adoption of the repeal.

The repeal is adopted under Texas Occupations Code §254.001, which provides the Board with the authority to adopt and enforce rules necessary for it to perform its duties.

The repeal affects Texas Occupations Code, Title 3, Subtitle D and Texas Administrative Code, Title 22, Part 5.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 20, 2011.

TRD-201101516
Sherri Sanders Meek
Executive Director
State Board of Dental Examiners
Effective date: May 10, 2011
Proposal publication date: December 17, 2010
For further information, please call: (512) 475-0972

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22 TAC §§110.1 - 110.9

The State Board of Dental Examiners (SBDE) adopts a new Chapter 110 without changes to the proposed text as published in the December 17, 2010, issue of the *Texas Register* (35 TexReg 11155) and will not be republished.

These individual sections are as follows: §110.1, relating to Definitions; §110.2, relating to Sedation/Anesthesia Permit; §110.3, relating to Nitrous Oxide/Oxygen Inhalation Sedation; §110.4, relating to Minimal Sedation; §110.5, relating to Moderate Sedation; §110.6, relating to Deep Sedation or General Anesthesia; §110.7, relating to Portability; §110.8, relating to Provisional Anesthesia and Portability Permits; and §110.9, relating to Anesthesia Permit Renewal. Concurrent with this adoption is the repeal of the existing anesthesia rules contained in 22 TAC §§108.30 - 108.35 and §§110.1 - 110.4.

The SBDE's Anesthesia Rules Ad-Hoc Committee was convened to update the agency's sedation and anesthesia rules based on sedation guidelines adopted by the American Dental Association (ADA) House of Delegates in 2007. The committee met on August 27, 2009, November 19, 2009, April 15, 2010, and August 19, 2010. The committee was chaired by Tamela L. Gough, DDS, and its members included William L. Purifoy, DDS; James W. Chancellor, DDS; William Birdwell, DDS; Maxwell Finn, DDS, MD; and Arthur Troilo, JD.

The new sections developed by the committee (new Chapter 110, Sedation and Anesthesia) consolidate sedation and anesthesia rules previously found in §§108.30 - 108.35 and Chapter 110, Enteral Sedation. The most significant change in the revisions is to the levels of anesthesia and sedation permitting. The permitting process emphasizes the level of sedation of the patient rather than the route of administration of the medication. The new sections establish five levels of anesthesia and sedation permits beyond the standard dental license: Nitrous Oxide/Oxygen Inhalation Sedation; Level 1: Minimal Sedation; Level 2: Moderate Sedation (enteral sedation); Level 3: Moderate Sedation (parenteral sedation); and Level 4: Deep Sedation or General Anesthesia.

Most levels of permitting will change in name only. Licensed dentists who lack sedation permits may continue to utilize local anesthetic and prescribe minor tranquilizers for anxiolysis. A licensed dentist who holds an active Nitrous Oxide/Oxygen Inhalation Conscious Sedation permit, Parenteral Sedation permit, or Deep Sedation or General Anesthesia permit on or before the effective date of the new sections will have his or her permit automatically reclassified as a Nitrous Oxide/Oxygen Inhalation Sedation permit, Level 3 permit, and Level 4 permit respectively on the effective date.

Comments were received from the Texas Dental Association (TDA), the Texas Society of Oral and Maxillofacial Surgeons (TSOMS), Texas Association of Nurse Anesthetists (TANA), Texas Academy of Pediatric Dentistry (TAPD), Texas Society of Periodontists (TSP), American Dental Association (ADA), and Texas Academy of General Dentistry (TAGD). In addition, twenty-four (24) individuals also submitted comments.

Comment: The term "titration" throughout the rules should be replaced with "incremental dosing" and "supplemental dosing" as they are more scientifically accurate and are used in the ADA Guidelines.

Response: The term "titration" is used in the ADA Guidelines for Teaching Pain Control and Sedations to Dentists and Dental Students, Section II, Definitions, Page 4, Subsection moderate sedation, Line 11. It reads, "{t}he following definition applies to administration of moderate and deep levels of sedation: *titration* - administration of incremental doses of a drug until a desired effect is reached." The Board makes no changes.

Comment: The ten (10) demonstrations of case management required in 22 TAC §110.5 (Moderate Sedation) should include appropriate documentation of various processes, i.e. management of informed consent process, specific anesthetic agent selected and prescribed, etc.

Response: The ADA Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students, Section V, Page 14, Teaching Administration of Moderate Sedation addresses the above concerns. The Board makes no changes.

Comment: Portability should be limited to licensed dental anesthesiologists who have completed an accredited post-doctoral residency-based program in anesthesiology/dental anesthesiology. Individuals who are currently holding a portability permit should be required to meet these requirements before they are "grandfathered."

Response: The Dentists licensed by the SBDE with Anesthesia Permits and Portability Permits have an excellent track record for patient safety. To limit the Portability Permits to dental anesthesiologists would not be in the best interest of Texas dental patients in need of sedation/anesthesia services and would limit access to care. The Board makes no changes.

EXHIBIT 1

Comment: For all individuals providing parenteral anesthesia, the Board should impose a new requirement for office based anesthesia evaluations. At the least, anesthesia equipment/monitors must be fixed, calibrated and inspected annually.

Response: §108.31(10), Facility Inspections, is determined on a case-by-case basis. Budgetary and manpower requirements to inspect every office are not feasible at the present time. The Board makes no changes.

Comment: A mechanism should be in place to assure that all office locations where drugs are administered are registered with the DEA as required by their rules and regulations.

Response: §108.8(10) requires compliance with the Texas Controlled Substance Act. The Board makes no changes.

Comment: If the Board is going to allow sedation permits other than through approved residency programs in medicine or dentistry, the Board should require several months (4-6) for permitting and not a 60 hour course.

Response: SBDE proposed anesthesia rules are based on sedation guidelines adopted by the American Dental Association House of Delegates in 2007. The guidelines for moderate parenteral sedation require a minimum of 60 hours of instructions, plus management of at least 20 patients by the intravenous route per participant. The Board makes no changes.

Comment: The language throughout the rules that states a dentist cannot supervise a Certified Registered Nurse Anesthetist (CRNA) unless the dentist holds a permit for the level of sedation procedure being performed by the CRNA should be changed. A dentist should not be required to possess a permit for the level of sedation that a CRNA is performing. A CRNA practices under his/her own license and scope of practice and does not require supervision by a dentist.

Response: SBDE has jurisdiction over the practice of dentistry and the authority to adopt rules regulating the practice of dentistry. The Board holds to the doctrine that the dentist is "captain of the ship" in that the provider dentist is responsible for his dental patient and the care provided. When the dental services are provided in the dental office the patient is a dental patient; therefore, the SBDE rules apply. The rule does not limit a CRNA from providing anesthesia services in other settings where dental services can be provided such as hospitals and outpatient surgery centers. The Board makes no changes.

Comment: Dental anesthesiologists who are currently enrolled or about to graduate from a Commission on Dental Accreditation (CODA) accredited residency in anesthesiology and, therefore, have a minimum of two full years of general anesthesia training, could be added to those eligible for a provisional general anesthesia permit under SBDE Proposed §110.8 and for a provisional portability permit.

Response: SBDE proposed §110.8(b)(2)(A) - (D) provides for Provisional and Portability Permit for an applicant who would apply for a deep sedation/general anesthesia permit. The Board makes no changes.

Comment: The board should clearly distinguish the definitions of "anxiolysis" and "minimal sedation." A licensed dentist without a sedation permit may continue to prescribe minor tranquilizers for anxyiolysis, while minimal sedation requires a permit.

Response: The Board recognizes the confusion between the anxiolysis and minimal sedation; however, anxiolysis should minimize the anxiety of a patient but not alter the cognitive function and or the coordination function of a patient. The Board makes no changes.

Comment: The board should either require a dentist to document pulse oximetry, heart rate, respiratory rate and blood pressure for patients under minimal sedation in SBDE Proposed §110.4(c)(5)(C) or remove the language. The permissive language does not make it clear whether it is a dentist's duty to document these items. Another commenter adds to this suggestion by stating that if the documentation is discretionary, then should not the time interval also be at the discretion of the dentist.

Response: SBDE proposed §110.4(c)(5)(B) states that a time-oriented sedation record may be considered for documentation of all monitored parameters. While the rule reads "may" be considered for documentation and indicates volunteer compliance, rules §108.7 and §108.8 state that the dentist "shall" make, maintain, and keep adequate records of the diagnosis made and treatment performed for and upon each dental patient for reference, identification, and protection of the patient and dentist in a manner consistent with that of a reasonable and prudent dentist in a like or similar situation. Most dentists would document the monitored parameters; however, the ADA Guidelines do not require documentation. The Board makes no changes.

Comment: The board should place all continuing education (CE) requirements regarding level 2 and 3 permit holders for treating different patient groups in one location; otherwise, it creates confusion. Another commenter states that SBDE Proposed §110.5(a)(3)(A) and (B) and SBDE Proposed §110.9(c) do not clearly state the CE requirements.

Response: SBDE Proposed §110.9(c)(1)(A) - (C) states the required continuing educational hours for each level of permit. SBDE Proposed §110.5(a) outlines the educational and professional requirements that apply to a Level 2 and 3 Moderate Sedation Permit. The Board makes no changes.

Comment: The terms "anxiolysis" and "minor tranquilizer" should be included in the list of definitions since they appear in the preamble to the rules.

Response: The ADA Guidelines for Teaching Pain Control and Sedations to Dentists and Dental Students do not include these terms in their definitions. SBDE does not require a permit to prescribe anxiolytic and minor tranquilizer drugs. These terms are less common in modern text. The Board makes no changes.

Comment: The board should define exactly which vital signs are required, because different authorities define "vital signs" differently; therefore, the term can be ambiguous.

Response: §108.8(b)(4) states, "{v}ital signs, including but not limited to blood pressure and heart rate..." implying that blood pressure and heart rate would be a minimum. Vital signs include blood pressure, pulse rate, respiratory rate, and body temperature by definition. Dentists are encouraged to do more as the situation requires. The Board makes no changes.

Comment: SBDE Proposed §110.7(d) (Portability) is not necessary, and the rules should just possibly state that wherever the anesthesia services are supplied, the dentist is responsible to maintain the standard of care. He further states that this section is a deviation from the ADA guidelines.

Response: SBDE Proposed §110.7(d) is necessary to safeguard the health and safety of Texans by assuring the anesthesia ser-

EXHIBIT 1

vices provided comply with SBDE Rules. The Board makes no changes.

Comment: SBDE Proposed §110.6(b)(3) and §110.6(c)(3)(A)(i)(II) and §110.6(c)(3)(A)(ii) should be modified to require that anyone performing deep sedation/general anesthesia should have "one other" ACLS provider in the operating room at all times. It would be very difficult to simultaneously prepare for cardioversion or draw up the necessary medications or restart an I.V. line while attempting to place an LAM or endotracheal tube in between your artificial respirations using a BVM with a BLS provider (the Board's standard).

Response: The ADA Guidelines for the Use of Sedation and General Anesthesia by Dentists, Page 11, Section C, Subparagraph 3 (Personnel and Equipment Requirements) requires a minimum of three (3) individuals must be present. A dentist qualified in accordance with Part IIIC of these guidelines to administer the deep sedation or general anesthesia and two additional individuals who have current certification of successfully completing the Basic Life Support (BLS) Course for Healthcare Provider. The Board makes no changes.

Comment: The requirement for emergency drugs and the defibrillator in SBDE Proposed §110.6(c)(3)(B)(vii) to be "immediately available" must be changed to available "in every operating room."

Response: The ADA Guidelines for the Use of Sedation and General Anesthesia by Dentists, Page 11, Section C, Subparagraph 3 (Personnel and Equipment Requirements), *Equipment* states that an appropriate defibrillator must be immediately available. The Board makes no changes.

Comment: In SBDE Proposed §110.7(d), the second line should be removed and replaced with something like the following: "The dentist shall travel to and from the location with all the anesthesia and emergency equipment necessary to support provision of anesthesia services that meet the standard of care. If the dentist providing portable anesthesia is the operator/anesthetist, then this dentist must have their own assistant who meets the standard of care for the level of anesthesia provided. Oxygen supplies, required of every dentist, shall be evaluated prior to beginning any anesthesia case." In the portable anesthesia practice, the location is unimportant. The location is merely a box, and the most important concerns are the equipment and supplies used by the operator with his/her trained staff. It is the operator and not the location which dictates patient safety.

Response: SBDE Proposed §110.7(d) is as follows: "A dentist providing anesthesia services utilizing a portability permit remains responsible for providing these services in strict compliance with all applicable laws and rules. The dentist shall ascertain that the location is supplied, equipped, staffed, and maintained in a condition to support provision of anesthesia services that meet the standard of care." Application of the SBDE Rules and the Dental Practice Act with the proposed rule answers the above concerns. The Board makes no changes.

Comment: If a dentist is going to practice anesthesia on another doctor's patients, regardless of the level of sedation, the dentist should have an anesthesia residency.

Response: The Proposed SBDE Anesthesia Rules and the ADA Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students establishes the educational requirements for the different levels of sedation and general anesthesia. The Board makes no changes.

The new sections are adopted under Texas Occupations Code §254.001, which provides the Board with the authority to adopt and enforce rules necessary for it to perform its duties, and §258.153, which provides the Board with the authority to establish by rule the minimum standards for the enteral administration of anesthesia by a dentist.

The adoption affects Texas Occupations Code, Title 3, Subtitle D, Chapter 258, and Texas Administrative Code, Title 22, Part 5.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 20, 2011.

TRD-201101514
Sherri Sanders Meek
Executive Director
State Board of Dental Examiners
Effective date: May 10, 2011
Proposal publication date: December 17, 2010
For further information, please call: (512) 475-0972

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PART 24. TEXAS BOARD OF VETERINARY MEDICAL EXAMINERS

CHAPTER 573. RULES OF PROFESSIONAL CONDUCT

SUBCHAPTER B. SUPERVISION OF PERSONNEL

22 TAC §573.17

The Texas Board of Veterinary Medical Examiners adopts new §573.17, regarding dentistry, with minimal changes to the proposed text as published in the February 18, 2011, issue of the *Texas Register* (36 TexReg 906). The text of the rule will be republished.

The minimal changes were changing the title of the definition of "animal teeth floating" to "equine teeth floating" in subsection (a)(2) as well as subsection (c). In addition, within that definition, the board changed the definition of "equine teeth floating" to be the "smoothing, filing and polishing of the sharp projections" from the proposed language "the rasping or cutting of the long projections". And finally, the board added language in subsection (b) to clarify and point back to language in board rules stating the supervision requirements of other dental activities are as determined by §573.10 of this title (relating to Supervision of Non-Licensed Employees).

The rule will become effective on July 1, 2011.

Section 801.002(7) of the Veterinary Licensing Act (Act) defines the practice of veterinary medicine to include dentistry, as set out in Texas Occupations Code, Chapter 801. The new board rule defines dentistry and states that dentistry includes: preventive dental procedures, equine teeth floating and operative dentistry/oral surgery, and provides definitions for those terms as well. Though the Texas Veterinary Licensing Act includes dentistry within the definition of the practice of veterinary medicine, no previous definition of dentistry was set out in rule or in statute. The new rule states that the definition of dentistry includes the

EXHIBIT 1

use of sedation or anesthesia to accomplish a dental procedure by a licensed veterinarian. The use of sedation or anesthesia on horses by unlicensed individuals is currently prohibited by §801.002(5) of the Act. No distinction is made in the definition of dentistry between the floating of teeth of animals with handheld, non-motorized, non-air-powered files or rasps and the use of a motorized or air-powered file. The new rule states any non-licensee may perform animal teeth floating only if they are under the supervision of a licensed veterinarian. The level of supervision required is left up to the judgment of the supervising veterinarian. The new rule also states the licensed veterinarian supervising the non-licensee will be held responsible for the non-licensee to provide the same standard of care to the public as the licensed veterinarian would be required to provide to the public. This is set forth as the public would expect the same standard of care whether a licensed veterinarian provides the service or a non-licensed equine dental practitioner under any level of supervision provides the service.

The new rule does not change that a non-licensee who is employed by a veterinarian may perform dentistry, with certain exceptions, under any level of supervision the licensed veterinarian approves, as set forth in 22 TAC §573.10. The new rule states that a non-licensee who practices dental procedures on animals in a manner inconsistent with this rule is in violation of the rule and the Texas Veterinary Licensing Act.

The board believes that a rule is needed because the unlicensed practice of equine dentistry has become more prevalent in the past few years. Therefore, there was increased concern regarding the possible public health problems occurring with the increase in unlicensed equine dental providers. The public health benefit from the new rule is the reduction of the potential occurrences of complications or injury/harm to animals from non-licensed individuals practicing dentistry, including motorized or powered teeth floating. Protection of the public welfare required action be taken to clarify who may lawfully perform equine dental services and allow additional practitioners under supervision to provide this service to the general public, while ensuring adequate veterinary supervision for the use of sedatives and any other complications resulting from the practice of teeth floating with power tools.

The state of the art procedure for teeth floating in Texas today is the use of power tools to accomplish teeth floating. For a great majority of horses, a practitioner could not use power tools in the mouth of an equine without a sedative, due to the flight nature of equines. Only a licensed veterinarian is legally authorized to possess, administer and/or dispense a legend drug, which includes sedatives. With the use of power tools the potential for complications is increased because it is more likely for injury to occur to the horses' teeth, including invading the pulp, which may cause permanent damage to the horses' teeth. Testimony was provided by licensed veterinarians, including photos, of damage done to horses' teeth, including invading the dental pulp and causing ulcers in the mouth, specifically from power tools used in teeth floating, at the public hearing on a version of this rule on August 20, 2010. Complaints have been filed with the board that include injuries to horses by lay equine teeth floaters. The board determined that the protection of public welfare requires the supervision by a licensed veterinarian. The board heard testimony that a licensed veterinarian needs to be on the premises when motorized or powered teeth floating is performed due to the likelihood and, in fact, the necessity of sedatives being used and the potential for complications implicit with the use of sedatives, or any other complications resulting from the practice of teeth floating.

The board determined that the level of supervision should be decided by the supervising veterinarian, as it would be the supervising veterinarian that would be responsible to the board for any violations of the standard of care because the lay equine dentists are not regulated by any licensing board.

The Texas Veterinary Medical Association (TVMA) provided a comment on the new rule with suggested changes that included the minimal changes added to the rule as stated above. However, TVMA also suggested that the rule should require direct supervision by a licensed veterinarian over the non-licensed equine dental practitioners. The board respectfully disagrees because the board believes the supervising veterinarian should be allowed to determine the level of supervision for any non-licensed equine dental practitioner he or she decides to supervise. TVMA also suggested the board include language within the definition of equine teeth floating to include the term "above the gum line." The board respectfully disagrees as the board believed this term was redundant as one would not be able to smooth, file or polish below the gun line. TVMA did not say whether they were for or against the proposed rule. One comment was received from a veterinarian with a hypothetical situation regarding a non-licensed non-equine dental practitioner providing anesthesia-free dental cleanings under direct supervision of the licensed veterinarian. The board does not believe this rule applies to such conduct. This commenter did not say whether he was for or against the proposed rule. No other comments were received during the comment period regarding the adoption of the new rule.

The board previously received hundreds of comments on a similar version of the rule published in the July 23, 2010, issue of the *Texas Register* (35 TexReg 6430). The board previously considered and responded to those comments which informed its decision-making process while debating and modifying the current rule.

The new rule is adopted under the authority of the Veterinary Licensing Act, Occupations Code, §801.151(a) which states that the Board may adopt rules necessary to administer the chapter; §801.151(b) of the Act which states that the Board may adopt rules of professional conduct appropriate to establish and maintain a high standard of integrity, skills, and practice in the veterinary medicine profession; and §801.002(7) which includes dentistry within the definition of veterinary medicine.

§573.17. Dentistry.

(a) Definitions. Dentistry is the practice of veterinary medicine and means the application or use of any instrument or device to any portion of any animal's tooth, gum or any related tissue for the prevention, cure or relief of any wound, fracture, injury, disease or other condition of an animal's tooth, gum or related tissue. Dentistry may include the use of sedation or anesthesia to accomplish a dental procedure by a licensed veterinarian. Dentistry includes, but is not limited to:

(1) "Preventive dental procedures" including, but not limited to, the removal of calculus, soft deposits, plaque, and stains, above the gum line or the smoothing, filing or polishing of tooth surfaces above the gum line;

(2) "Equine teeth floating" defined as the smoothing, filing and polishing of the sharp projections or points of the teeth of animals;

(3) "Operative dentistry/oral surgery" or any other dental procedure that invades the hard or soft oral tissue including a procedure

EXHIBIT 1

that alters the structure of one or more teeth, or repairs damaged and diseased teeth, or the deliberate extraction of one or more teeth.

(b) Supervision. Any non-licensee may perform animal teeth floating only if they are under the appropriate level of supervision of a licensed veterinarian as determined by the licensed veterinarian. The Supervision requirements of other dental activities are as determined by §573.10 of this title (relating to Supervision of Non-Licensed Employees).

(c) Responsibility. When equine teeth floating is performed by a non-licensee, the board will hold the licensee supervising the non-licensee responsible for the standard of care provided by the non-licensee. The board expects the non-licensee to practice at the same standard of care the licensed veterinarian would be required to provide to the public.

(d) Prohibited acts. Any non-licensee who practices any other dental procedures on animals in a manner inconsistent with this rule shall be in violation of this rule and the Texas Veterinary Licensing Act.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

TRD-201101558
Loris Jones
Executive Assistant
Texas Board of Veterinary Medical Examiners
Effective date: July 1, 2011
Proposal publication date: February 18, 2011
For further information, please call: (512) 305-7563

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TITLE 30. ENVIRONMENTAL QUALITY

PART 1. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 35. EMERGENCY AND TEMPORARY ORDERS AND PERMITS; TEMPORARY SUSPENSION OR AMENDMENT OF PERMIT CONDITIONS

SUBCHAPTER D. EMERGENCY SUSPENSION OF BENEFICIAL INFLOWS

30 TAC §35.101

The Texas Commission on Environmental Quality (TCEQ, agency, or commission) adopts the amendment to §35.101.

Section 35.101 is adopted *without change* to the proposed text as published in the November 19, 2010, issue of the *Texas Register* (35 TexReg 10143) and will not be republished.

Background and Summary of the Factual Basis for the Adopted Rule

In 2007, the 80th Legislature passed House Bill 3 (HB 3), relating to the management of the water resources of the state, including the protection of instream flows and freshwater inflows; and Senate Bill 3 (SB 3), relating to the development, management, and preservation of the water resources of the state. HB 3/SB 3 amended Texas Water Code (TWC), §5.506 and §11.148, to provide that the commission may, in an emergency, temporarily make state water available that had previously been set aside from permitting in the environmental flows process and standards setting of TWC, §11.1471(a)(2).

The prior version of TWC, §5.506 and §11.148, already provided that the commission could suspend a water right permit condition relating to beneficial inflows to affected bays and estuaries and instream uses in an emergency where the situation could not practically be resolved in another way. The statute set out certain notice and procedural requirements. The commission had implemented the prior statute by adopting §35.101.

The purpose of this adopted amendment is to implement HB 3/SB 3, §§1.01, 1.02, 1.15, and 1.16, relating to emergency authority to make available water set aside for beneficial inflows to affected bays and estuaries and instream uses and to provide the rules and procedures for the temporary authorization to use the set aside water and to allow the executive director to make an initial action on an emergency suspension of permit conditions or to make set aside water temporarily available without a hearing. The commission would still have to hold the subsequent hearing or refer the matter to the State Office of Administrative Hearings (SOAH).

In a corresponding rulemaking published in this issue of the *Texas Register,* the commission also adopts new 30 TAC Chapter 298, Environmental Flow Standards for Surface Water.

Section Discussion

§35.101, Emergency Suspension of Permit Conditions Relating to, and Emergency Authority to Make Available Water Set Aside for, Beneficial Inflows to Affected Bays and Estuaries and Instream Uses

The commission adopts the amendment to §35.101 to include emergency authorizations to temporarily make state water available that had previously been set aside from permitting in the environmental flows process and standards. The commission also adopts minor changes to make it clear that temporary authorizations to use set-asides were covered by this rule as well as the suspension of those permit conditions. Subsection (a) allows either the commission or the executive director to review or take action on an application in specific circumstances. To ensure consistency throughout §35.101 and make clear that either the commission or executive director can take the actions allowed by this section, the commission adopts the addition of "executive director" to the last sentence in subsection (a) and in subsections (b), (f) - (i), (k), and (n). Additionally, in subsection (e), the commission adopts new rule language to clarify that for applications considered by the executive director the TCEQ's Office of the Chief Clerk will provide notice to the Texas Parks and Wildlife Department (TPWD) and the TCEQ's Public Interest Counsel. Further, in subsection (l), the name of Chapter 288 is corrected to add the words "Drought Contingency Plans." This adopted amendment implements HB 3/SB 3, §§1.01, 1.02, 1.15, and 1.16.

Final Regulatory Impact Analysis Determination

The commission reviewed the adopted rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the rulemaking is not subject to §2001.0225 because it does not meet the definition of "major environmental rule" as defined in the statute.

EXHIBIT 1

A "major environmental rule" is a rule, the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The specific intent of the adopted amendment is to amend §35.101 to be consistent with TWC, §5.506 and §11.148, as amended by HB 3/SB 3. The statutes were amended to provide that the commission may, in an emergency, temporarily make state water available that had previously been set aside from permitting in the environmental flows process and standards setting of TWC, §11.1471(a)(2). The purpose of this statutory amendment was to allow flexibility to use water that would otherwise be reserved for instream flows when an emergency condition requires it. The adopted amendment provides the rules and procedure to implement this emergency authority.

The adopted amendment is not a "major environmental rule" because it is not adopted to protect the environment or reduce risks to human health from environmental exposure and will not adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The commission concludes that the adopted rulemaking does not meet the definition of a major environmental rule.

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. No comments were received on the draft regulatory impact analysis determination.

Takings Impact Assessment

The commission evaluated the adopted amendment to Chapter 35 and performed an assessment of whether the amendment would constitute a taking under Texas Government Code, Chapter 2007. The primary purpose of the adopted amendment is to provide the rules and procedure by which the commission may, in an emergency, temporarily make state water available that had previously been set aside from permitting in the environmental flows process and standards setting of TWC, §11.1471(a)(2). The adopted amendment would substantially advance this purpose by amending §35.101 to set forth the rules and procedure related to emergency authority to make available water set aside for beneficial inflows to affected bays and estuaries and instream uses and to make conforming changes throughout the section.

Promulgation and enforcement of the adopted rule would be neither a statutory nor a constitutional taking of private real property. Specifically, the adopted amendment does not affect a landowner's rights in private real property because this rulemaking does not burden (constitutionally), nor restrict or limit the owner's right to property and reduce its value by 25% or more beyond that which would otherwise exist in the absence of the regulations. The amendment provides standards and procedures regarding the commission's emergency authority. These standards and procedures do not burden, restrict, or limit an owner's right to property, or reduce its value. Therefore, the rule will not constitute a taking under the Texas Government Code, Chapter 2007.

Consistency with the Coastal Management Program

The commission reviewed the adopted rulemaking and found the adoption is a rulemaking identified in the Coastal Coordination Act Implementation Rule, 31 TAC §505.11(b)(4), relating to rules subject to the Coastal Management Program, and will, therefore, require that goals and policies of the Texas Coastal Management Program (CMP) be considered during the rulemaking process.

The commission reviewed this rulemaking for consistency with the CMP goals and policies in accordance with the regulations of the Coastal Coordination Council and determined that the rulemaking is procedural in nature and will have no substantive effect on commission actions subject to the CMP and is, therefore, consistent with CMP goals and policies.

The commission invited public comment regarding the consistency with the coastal management program during the public comment period. No comments were received regarding the consistency of this rulemaking with the coastal management program.

Public Comment

The commission held a public hearing for this rule on December 16, 2010, in Austin, Texas. The comment period closed on December 20, 2010. The commission received written comments from Bayou Preservation Association (BPA); Lloyd Gosselink Rochelle and Townsend, P.C., on behalf of its clients (LGRT); TPWD; Webb and Webb (WW); and one individual.

The commission received comments from one commenter in support of the proposed rule. The commission received comments from two commenters against the proposed rule. The commission received comments from four commenters that suggested changes to the proposed rule.

Response to Comments

BPA comments that the rule proposal language represents that the emergency suspensions will "only be utilized during extremely rare circumstances" for public benefits that "could include water for human consumption, agricultural use, or any other beneficial use under TWC, §11.023" and that the same circumstance of drought that could justify granting such emergency suspension could also be a circumstance that is critical to broader public and environmental needs for instream flow in bayous and rivers and freshwater inflows to bays and estuaries. In recognition of these broader needs, BPA requests that in coordination with TPWD, the TCEQ require the applicants under §35.101 to monitor for environmental resource effects related to the granting of such emergency suspensions and report all monitoring results as soon as practical to the TPWD and TCEQ. Such environmental monitoring parameters would be required on an application by application specific basis and could include, but not be limited to: dissolved oxygen, salinity, and observed fish kills. At any time, should environmental monitoring indicate degradation of environmental resources, the TCEQ should review the emergency authorization issued under §35.101 for the consideration of suspending such authorization.

The commission responds that the changes made to TWC, §11.148, by HB 3/SB 3 did not require monitoring for environmental resource effects related to emergency suspensions of the environmental flow set asides. TWC, §11.148, does not currently contain that requirement. The rule has not been changed in response to this comment.

BPA urges that the TCEQ and the TCEQ's executive director use extreme caution in granting applications under the authority of §35.101, as these may result in serious consequences to the water flows in bayous and rivers for instream uses and freshwater inflows to bays and estuaries.

EXHIBIT 1

The commission agrees that this chapter should be exercised cautiously because of the possible effects of a decrease in water available for instream uses and freshwater inflows. For that reason, the rule includes language designed to ensure that applications under this rule are only granted when absolutely necessary. The rule requires findings that an emergency exists and that there is no feasible, practicable alternative to the suspension prior to granting such an application. Further, the rule defines an emergency as a condition where water supplies available to the applicant have been reduced or impaired to such an extent that an imminent peril to the public health, safety, or welfare exists. No change was made in response to this comment.

LGRT supports the amendments to this chapter to expand TCEQ's right to suspend water rights, even environmental flow set-asides, when the needs of man require it.

The commission acknowledges LGRT's comment supporting the amendments.

TPWD comments that the proposed rule amendments are not supported by the authority provided in the HB 3/SB 3 amendments to TWC, §5.506 and §11.148, because HB 3/SB 3 did not specifically delegate power to the TCEQ's executive director to determine emergency suspensions. TPWD requests that all proposed rule amendments providing that authority should be deleted. HB 3/SB 3 did not provide authority for TCEQ to create a new finding that emergency conditions "override the need to maintain the balance between protecting environmental flow needs and other public interests and relevant factors." This new finding is unnecessary in that the suspension of environmental flow protection permit conditions and set-asides under existing authority automatically replaces any balancing with a finding that environmental needs are subordinated to other needs in an emergency. The rule amendments necessary to implement HB 3/SB 3 require only language that reflects the new commission authority to temporarily make available environmental flow set-aside water for other beneficial uses if the commission finds that an emergency exists that cannot be practically resolved in another way to adequately and accurately describe the new TCEQ authority, the rule could duplicate the statutory language and use a short description of the referenced commission action such as "temporary use of environmental set-aside water" in the appropriate rule sections that lay out the notice and procedural requirements for emergency suspensions.

The commission respectfully disagrees with this comment. Delegation of authority to the executive director is necessary to respond quickly in the event of an emergency. This delegation is authorized by TWC, §5.501, which specifies that the commission by rule may delegate to the executive director the authority to issue emergency orders. No change was made in response to this comment.

TPWD notes that there appears to be a disconnect between the specific language of the legislative findings and directives in HB 3/SB 3 to establish environmental set-asides and TCEQ's determination that set-asides should not be established. In the rule proposal for Chapter 298 regarding environmental flow standards, TCEQ finds that there is no reasonable basis to establish set-asides, yet amendments to §35.101 attempt to implement requirements of TWC, §5.505 and §11.148, that allow temporary use of set-aside water for emergencies. It is inconsistent for the TCEQ in the Chapter 298 rule proposal to conclude that it will not establish environmental set-asides at the same time it proposes amendments to §35.101 to address the temporary use of such set-asides under emergency conditions. East Texas basins have significantly higher average annual rainfall than West Texas and, in general, have more unappropriated water available. If TCEQ does not establish set-asides in the eastern basins, it is difficult to understand why it would establish set-asides in the remaining basins. Such a potential precedent is of concern to TPWD. This finding against set-asides contravenes the intent of HB 3/SB 3 and makes the amendments to §35.101 unnecessary.

The commission respectfully disagrees with this comment. The commission recognizes that no set-asides have yet been established. However, the process for determining environmental flow standards is ongoing; therefore, the establishment of set-asides is possible. The commission has determined that the most prudent course of action is to put rules in place during this rulemaking process so that the state will be prepared in the event of an emergency, whether or not water has been set aside for environmental flows at the time of the emergency. No change was made in response to this comment.

WW notes that proposed §35.101 sets forth an expedited emergency type proceeding which is followed by an expedited hearing and that the procedures should allow for consideration of the issues associated with the emergency suspension of beneficial inflows by all interested parties on a reasonable basis.

The procedure for emergency action laid out in the rule provides that the initial action on an application must be taken within 72 hours of TPWD's receipt of notice of the application. Then, the rules require that notice of the action be published immediately. Next, a hearing to affirm, modify, or set aside the initial action must be held no later than 15 days after the initial action, and notice of this hearing must be provided to affected persons not later than ten days prior to the hearing. This procedure provides adequate notice to and a reasonable opportunity for hearing for persons affected by an emergency action. No change was made in response to this comment.

One individual is concerned that "temporary suspension" is not defined here even though the proposed rule allows up to six months of "temporary authorization." Once a river and or stream goes dry or stops providing freshwater to a bay or estuary immense damage is done which either may not be reversible or may take many years or decades to recover. Even if this loss of freshwater occurs only one time or only one time of the year the damage is devastating. TCEQ should be required to explain what positive and negative environmental impacts are if this occurs due to a "temporary suspension" or "authorization."

The commission respectfully disagrees with this comment. Section 35.22 limits an emergency order issued under Chapter 35 to a reasonable time specified by the order, which may not exceed 180 days and may be renewed once for an additional period not to exceed 180 days by submittal of a new application. Furthermore, the rule requires a temporary order to be limited to a reasonable time specified by the order. A temporary suspension may last up to 180 days (an initial period of 120 days, followed by the possibility of a single 60-day extension). No change was made in response to this comment.

WW comments that the proposed rules provide some flexibility in the analysis of the emergency. For example, either the commission or the executive director must find that emergency relief can be granted if emergency conditions exist which: "override the need to maintain the balance between protecting environmental flow needs and other public interest and relevant factors . . .." the emphasized text allows all parties to raise any matter, whether or not foreseen or predictable, which should impact the

EXHIBIT 1

commission's or the executive director's decision regarding the emergency conditions.

If a hearing occurs regarding the commission's or executive director's decision, it would be held at SOAH and subject to the evidentiary rules applicable to an administrative hearing, including the Texas Rules of Evidence regarding admissibility of evidence. At hearing, the Administrative Law Judge will determine the admissibility of information related to any matter brought up under "other public interest and relevant factors." No change was made in response to this comment.

One individual would like to know how the TCEQ defines "temporarily available."

Section 35.22 limits an emergency order issued under Chapter 35 to a reasonable time specified by the order, which may not exceed 180 days and may be renewed once for an additional period not to exceed 180 days by submittal of a new application. Further, the rule requires a temporary order to be limited to a reasonable time specified by the order. Thus, temporary availability refers to availability for a reasonable period of no more than 180 days. No change was made in response to this comment.

One individual would like to know what constitutes the reduction of public water supplies to "critical levels."

The reduction of public water supplies to critical levels appears in §35.101(b)(1), which is a portion of Chapter 35 that is not being amended in this rulemaking. It describes a general situation, which is an example of a circumstance in which an application may be considered by the commission or executive director. The commission needs to maintain some flexibility in defining that term based on the specific fact situation. No change was made in response to this comment.

One individual would like to know what constitutes "significant contamination" of a public water supply.

"Significant contamination" of a public water supply appears in §35.101(b)(3), which is a portion of Chapter 35 that is not being amended in this rulemaking. It describes a general situation, which is an example of a circumstance in which an application may be considered by the commission or executive director. Since it is a general term, used in an example, it is not specifically defined. The commission needs to maintain some flexibility in defining that term based on the specific fact situation. No change was made in response to this comment.

One individual would like to know how TCEQ defines "welfare" and whether this definition allows for damage or destruction of rivers, streams, and bays and estuaries so that businesses can continue to operate, and if it does, what ecological, biological, and economic damage would occur. Since ecosystems are the very basis for the entire economy, their protection is a matter of human survival and public interest and their severe damage or destruction should not be allowed.

The term "welfare" is not specifically defined in the rules; therefore, none of the considerations listed in the comment are excluded from consideration under the rule. However, the commission is limited to consideration of those matters that are within the jurisdiction granted to it by the legislature. The commission needs to maintain some flexibility in defining that term based on the specific fact situation. No change was made in response to this comment.

One individual requests that the rule should also require that the Texas General Land Office (GLO) be notified since this is the agency that implements the Texas Coastal Zone Management Program which is supposed to protect the health of our bays and estuaries.

The commission responds that HB 3/SB 3 (TWC, §11.148(b)) specifically names the TPWD as the agency to receive notice of any emergency actions to temporarily make water available that was set aside for environmental flows. The commission shares the responsibility of protecting the health of the state's bays and estuaries with the GLO and several other agencies and organizations. Further, the commission is a member of the Texas Coastal Coordination Council, which includes the GLO. Due to the commission's own responsibilities and the coordination among state agencies in the Texas Coastal Coordination Council, the commission finds it is unnecessary to separately notify the GLO of applications under this section. No change was made in response to this comment.

One individual comments that three days (72 hours) is not long enough to provide the TPWD and GLO with an opportunity to analyze the situation and provide comments of significant importance to TCEQ. This individual proposes at least a five - seven day time period for TPWD and GLO comments.

The commission responds that HB 3/SB 3 (TWC, §11.148(b)) specifically defines 72 hours as the period in which the TPWD must submit comments after receiving notice of any emergency actions to temporarily make water available that was set aside for environmental flows. No change was made in response to this comment.

One individual is concerned that the proposed rule does not require that a "temporary authorization" *will be* contingent upon the full implementation of water conservation and/or drought contingency plans but only says that it may be contingent upon the implementation of these plans and that if this is allowed, permanent and or long-term severe damage to these ecosystems is virtually ensured. The rule should require full implementation of water conservation and/or drought contingency plans before a temporary authorization can be approved.

The commission respectfully disagrees that this provision "virtually ensure(s) permanent or long-term severe damage to these ecosystems." The word "may" rather than "shall" was chosen for this provision in order to allow the flexibility necessary for response to an evolving emergency situation. Additionally, §35.101(l) states that the emergency suspension may be contingent on full implementation of the plans and measures, and that if the permittee does not have a water conservation plan and drought contingency plan, the permittee shall be required to develop and implement those plans in a required time period. No change was made in response to this comment.

One individual notes that the proposed rule apparently allows federally endangered species, those species of "high interest," and those that have significant scientific value or commercial value to perish or be severely damaged since it does not require that water be kept in the stream but only says that water "may also be required." This individual opposes this insensitive, ultimately self-defeating, and harmful action which puts human survival at risk.

Emergency authorizations require a balancing of often competing interests. The commission has strictly drafted the emergency authorization rules so that human health and safety will be protected while mitigating and minimizing the risk of harm to other species. No change was made in response to this comment.

EXHIBIT 1

WW comments that proposed §35.101(l) and (n) contain references to water conservation plans and drought contingency plans but that the language is inconsistent between the two subsections. Section 35.101(l) states that the emergency suspension may be contingent on full implementation of the plans and measures, and that if the permittee does not have a water conservation plan and drought contingency plan, permittee shall be required to develop and implement those plans in a required time period. Section 35.101(n), however, only states that the order granting emergency or temporary suspension may require full implementation of the water conservation plans and drought contingency plans "as a precondition for obtaining relief." Because the proposed rules for Chapter 35 contemplate emergency suspensions of environmental conditions in water rights permits, it seems that the rules should require full implementation of water conservation and drought contingency plans or measures and any inconsistency between §35.101(l) and (n) should be clarified by changing "may" to "shall" in the last sentence of §35.101(n).

The commission respectfully disagrees with this comment. The sections cited are not inconsistent. Section 35.101(l) provides that the agency will require development and implementation of water conservation and drought contingency plans, if the applicant has none, in a prescribed time period subsequent to granting the authorization. Section 35.101(n) provides that the agency may require full implementation of those plans as a precondition to relief, that is, prior to granting the authorization. No change was made in response to this comment.

STATUTORY AUTHORITY

This amendment is adopted under Texas Water Code (TWC), §5.102, which establishes the commission's general authority necessary to carry out its jurisdiction; TWC, §5.103, which establishes the commission's general authority to adopt rules; TWC, §5.105, which establishes the commission's authority to set policy by rule; and TWC, §5.501, which establishes the commission's authority to adopt rules necessary to administer and carry out emergency and temporary orders.

The adopted amendment implements TWC, §5.506 and §11.148.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

TRD-201101537
Robert Martinez
Director, Environmental Law Division
Texas Commission on Environmental Quality
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Proposal publication date: November 19, 2010
For further information, please call: (512) 239-0779

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CHAPTER 101. GENERAL AIR QUALITY RULES

SUBCHAPTER A. GENERAL RULES

30 TAC §101.1

The Texas Commission on Environmental Quality (TCEQ or commission) adopts the amendment to §101.1.

The amendment is adopted *with changes* to the proposed text as published in the November 19, 2010, issue of the *Texas Register* (35 TexReg 10147) and will be republished.

The amendment will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the state implementation plan (SIP).

Background and Summary of the Factual Basis for the Adopted Rule

This rulemaking adds clarifying definitions to TCEQ rules necessary for proper implementation of new and revised federal regulations regarding the National Ambient Air Quality Standard (NAAQS) for particulate matter (PM).

On July 18, 1997, the EPA revised the NAAQS for PM to add new standards for fine particles using PM with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$) as an indicator. However, at that time, certain difficulties regarding implementation of the $PM_{2.5}$ regulations remained, including the lack of necessary tools to calculate emissions of $PM_{2.5}$ and related precursors, the lack of adequate modeling techniques to project ambient impacts, and the lack of $PM_{2.5}$ monitoring sites. Therefore, on October 23, 1997, EPA issued a memorandum providing for PM with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}) to be used as a surrogate for $PM_{2.5}$. EPA reaffirmed use of the surrogate policy in a memorandum dated April 5, 2005.

On November 1, 2005, the EPA proposed regulations to implement the New Source Review (NSR) program for $PM_{2.5}$. EPA published the bulk of the major NSR program final regulations for $PM_{2.5}$ on May 16, 2008 (effective on July 15, 2008). EPA noted that this final action, with EPA's proposed rule on increments, significant impact levels (SILs), and significant monitoring concentration (SMC) when final, will represent the final elements necessary to implement a $PM_{2.5}$ Prevention of Significant Deterioration (PSD) program. EPA published the final rule on increments, SILs, and SMC on October 20, 2010 (effective December 20, 2010 for the SILs and SMC, and October 20, 2011 for the increment demonstration). On February 11, 2010, the EPA proposed two actions that would end EPA's 1997 policy allowing sources and permitting authorities to use a demonstration of compliance with the PSD requirements for PM_{10} as a surrogate for meeting the PSD requirements for $PM_{2.5}$. In the first action, the EPA proposed to repeal the "grandfathering" provision for $PM_{2.5}$ contained in the federal PSD program. The provision allows applicants for proposed new major sources and major modifications that have submitted a complete PSD permit application prior to the effective date of an amendment to the PSD regulations but have not yet received final and effective PSD permit, to continue relying on information already in the application rather than immediately having to amend applications to demonstrate compliance with the new PSD requirements. In the second action, EPA also proposed to end early the PM_{10} Surrogate Policy applicable in states that have an approved PSD program in their SIP. The three-year transition period for revising the SIP and for use of the surrogate policy ends in May 2011, unless revised by EPA. In an effort to ensure the TCEQ meets regulatory requirements of the Federal Clean Air Act (FCAA), the commission is adopting amendments to Chapter 101 and 30 TAC Chapter 106, Permits by Rule, to add specific definitions related to $PM_{2.5}$ regulation, and to address the known requirements for implementation.

Existing federal regulations require both major and minor NSR programs to address any pollutant for which there is a NAAQS

EXHIBIT 1

and precursors to the formation of such pollutant when identified for regulation by the EPA. TCEQ rules outline the requirements for both major and minor NSR programs under 30 TAC §116.110, Applicability. This section requires any person who plans to construct any new facility or to engage in the modification of any existing facility which may emit air contaminants into the air of this state to obtain a permit under §116.111, General Application, or satisfy the conditions for another authorization type as listed within that section. Chapter 116, Subchapter B, New Source Review Permits, outlines the general requirements for both minor and major NSR permits. Specifically, §116.111 covers the general application requirements for both major and minor NSR. Minor NSR sources are required to comply with all sections of §116.111 except §116.111(a)(2)(H) and (I) which only apply to major NSR (nonattainment and PSD).

For precursors, EPA provided some clarification regarding regulation of $PM_{2.5}$ precursors in the May 16, 2008, $PM_{2.5}$ implementation rule, stating that generally where scientific data and modeling analyses provide reasonable certainty that the pollutant's emissions are a significant contributor to ambient $PM_{2.5}$ concentrations, EPA believes that pollutant should be identified as a "regulated NSR pollutant" and subject to the $PM_{2.5}$ NSR provisions. Conversely, where the effect of a pollutant's emission on ambient $PM_{2.5}$ concentrations is subject to substantial uncertainty, such that in some circumstances, the pollutant may not result in the formation of $PM_{2.5}$, or control of the pollutant may have no effect or may even aggravate air quality, EPA generally believes it is unreasonable to establish a nationally-applicable presumption that the pollutant is a regulated NSR pollutant subject to the requirements of NSR for $PM_{2.5}$. Therefore, EPA has established certain presumptions regarding the $PM_{2.5}$ precursors, sulfur dioxide (SO_2), nitrogen oxide (NO_x), volatile organic compound (VOC) and ammonia. Specifically, EPA presumes SO_2 and NO_x to be significant contributors to ambient $PM_{2.5}$ concentrations in all areas and thus, have termed these pollutants "presumed in," meaning requiring regulation as a precursor for $PM_{2.5}$. Conversely, the final rule does not require regulation of VOC or ammonia as a precursor to $PM_{2.5}$ for the NSR program because additional research and technical tools are necessary to characterize the emissions inventories for VOC, and there is considerable uncertainty related to ammonia as a precursor. Therefore, EPA has categorized these pollutants as "presumed out," meaning not regulated as a precursor for $PM_{2.5}$ regulation. However, states have the option to exclude NO_x, as a precursor by demonstrating that NO_x emissions are not a significant contributor to ambient $PM_{2.5}$ concentrations in a particular area. In addition, states have the option of identifying VOC and/or ammonia as precursor(s) by demonstrating that emissions for VOC and/or ammonia are a significant contributor in an area, and thus, should be subject to major NSR.

Furthermore, in the Final Rule for increments, SILs, and SMC, EPA removed the reference to "direct" $PM_{2.5}$ emissions, to allow for consideration of precursor emissions when determining whether the air quality impact of a major new source or modification would be less than the $PM_{2.5}$ SILs. EPA has indicated that estimating techniques are being developed that will be able to be applied to the $PM_{2.5}$ analysis in the near future. Removing the reference to direct emissions in the rule also allows EPA to include precursor emissions through guidance without notice and comment required for rulemaking. Furthermore, EPA may require precursors be included in "photochemical" modeling to obtain concentrations that could include direct and secondarily formed $PM_{2.5}$ in the source impact and air quality analyses.

EPA has also provided clarification regarding regulation of condensable PM under the $PM_{2.5}$ regulations stating they will not require states to address condensable PM in establishing enforceable emissions limits for either PM_{10} or $PM_{2.5}$ in NSR permits during the transitional period that ended on January 1, 2011. During this transitional period, EPA assessed the capabilities of test methods available for measuring condensable emissions, publishing a final rule for methods of measuring filterable PM_{10} and $PM_{2.5}$ and measuring condensable PM emissions on December 21, 2010. The final rule promulgates amendments to Methods 201A and 202. The final amendments to Method 201A add a particulate-sizing device to allow for sampling of particulate matter with mean aerodynamic diameters less than or equal to $PM_{2.5}$. The final amendments to Method 202 revise the sample collection and recovery procedures of the method to reduce the formation of reaction artifacts that could lead to inaccurate measurements of condensable particulate matter. Additionally, the final amendments to Method 202 eliminate most of the hardware and analytical options in the existing method, thereby increasing the precision of the method and improving the consistency in the measurements obtained between source tests performed under different regulatory authorities. This final rule became effective on January 1, 2011.

Finally, EPA clarified that there will be no changes to the implementation of Best Available Control Technology (BACT) requirements for $PM_{2.5}$ at major sources that are subject to the PSD program. If a new major source will emit, or has the potential to emit, a significant amount of a regulated NSR pollutant in an attainment area for that pollutant, the source must apply BACT for each emissions unit that emits the pollutant. In addition, if a physical change or operational change at an existing major source will result in a significant emissions increase and significant net emissions increase of a regulated NSR pollutant, the source must apply BACT to each proposed emissions unit experiencing a net increase in emissions of that pollutant as a result of the physical or operational change in the unit. Under the $PM_{2.5}$ PSD program, these requirements will apply to direct $PM_{2.5}$ emissions; SO_2 emissions; and NO_x emissions, unless states demonstrate that NO_x is not a significant contributor to ambient $PM_{2.5}$ concentrations in that area; and to VOC if identified by a state as a precursor in the $PM_{2.5}$ attainment area where the source is located. Although EPA has specified that direct emissions of $PM_{2.5}$ at or above the significant emission rate (SER) would trigger a BACT analysis, EPA has not specified whether a precursor's emissions above the precursor's SER would trigger a BACT analysis for $PM_{2.5}$ if direct emissions of $PM_{2.5}$ are below the $PM_{2.5}$ SER. Therefore, it is presumed that BACT for direct $PM_{2.5}$ will apply only if direct $PM_{2.5}$ emissions are significant, and BACT for precursor pollutants will apply only if the precursor emissions equal or exceed the specific SER for the precursor pollutant.

Section Discussion

The commission adopts the amendment to §101.1, Definitions, to remove the figure in §101.1(25) providing the *de minimis* impact levels for SO_2, PM_{10}, nitrogen dioxide (NO_2), and carbon monoxide (CO). In its place, the definition will reference 40 Code of Federal Regulations (CFR) §51.165(b)(2). 40 CFR §51.165(b)(2) provides the significance levels, above which a major source or major modification would be considered to cause or contribute to a violation of the NAAQS when such source or modification would, at a minimum, exceed the listed significance levels. In addition, the commission is adopting changes to §101.1(75), which currently defines PM. The adoption will move the definition for PM_{10} from §101.1(78) to §101.1(75)(A), and add

EXHIBIT 1

the definition for $PM_{2.5}$ under §101.1(75)(B). PM emissions is defined under §101.1(76). This section will be amended to include §101.1(76)(A) and (B), which will define direct and secondary PM emissions. The definitions for direct and secondary PM emissions were changed from proposal due to EPA's comment. $PM_{2.5}$ emissions will be defined under existing §101.1(78) when the definition for PM_{10} is moved to new §101.1(75)(A). These changes will provide the definitions for PM_{10} and $PM_{2.5}$ emissions and the definitions for direct and secondary PM emissions which currently do not exist. The definition of $PM_{2.5}$ emissions in §101.1(78) has been amended to address continuing technical issues associated with the measurement of $PM_{2.5}$ in wet gas streams. EPA acknowledged in promulgating amendments to its particulate matter measurement methods that "using Method 5 on stacks with entrained moisture and assuming that the catch is $PM_{2.5}$ can potentially overestimate $PM_{2.5}$ concentrations.... Monitoring the emission of PM_{10} or $PM_{2.5}$ from a wet gas stream is a challenging problem that has not been addressed successfully despite considerable effort." EPA further notes that state permitting authorities have the responsibility to interpret EPA's recommendations regarding wet gas measurement (December 21, 2010, issue of the Federal Register (FR) (75 FR 80,117, 80,126)). Based on these technical issues and the commission's interpretation of EPA's recommendations, the final language of §101.1(78) has been amended to allow the use of test methods approved under the SIP or an EPA delegation or approval. Finally, the federal significant monitoring concentration for $PM_{2.5}$, 4 micrograms per cubic meter 24-hour average, also applies to Texas $PM_{2.5}$ sources.

Final Regulatory Impact Analysis

The commission reviewed the adopted rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the adopted rule does not meet the definition of a "major environmental rule." Texas Government Code, §2001.0225 states that a "major environmental rule" is, "a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state." While the purpose of this rulemaking is to increase protection of the environment and reduce risk to human health, it is not expected that this rulemaking will adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, or the public health and safety of the state or a sector of the state.

Furthermore, while the adopted rulemaking does not constitute a major environmental rule, even if it did, a regulatory impact analysis would not be required because the adopted rulemaking does not meet any of the four applicability criteria for requiring a regulatory impact analysis for a major environmental rule. Texas Health and Safety Code (THSC), §2001.0225 applies only to a major environmental rule which: 1) exceeds a standard set by federal law, unless the rule is specifically required by state law; 2) exceeds an express requirement of state law, unless the rule is specifically required by federal law; 3) exceeds a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopts a rule solely under the general powers of the agency instead of under a specific state law. The adopted rulemaking does not meet any of the four applicability criteria listed in Texas Government Code, §2001.0225 because: 1) the adopted rulemaking is designed to meet, not exceed the relevant standard set by federal law; 2) parts of the adopted rulemaking are directly required by state law; 3) no contract or delegation agreement covers the topic that is the subject of this rulemaking; and 4) the adopted rulemaking is authorized by specific sections of THSC, Chapter 382 (also known as the TCAA), which is cited in the statutory authority section.

The specific intent of the adopted rulemaking is to amend Chapter 101 to add definitions necessary for implementation of $PM_{2.5}$ NSR regulations, and replace current definitions with references to federal definitions for efficiency. The preamble to this rulemaking clarifies how precursors and condensable emissions are addressed, that EPA has made no changes to the BACT analysis process for $PM_{2.5}$, and provides a basis for regulation of $PM_{2.5}$ emissions when the use of PM_{10} as a surrogate for $PM_{2.5}$ is no longer applicable.

Takings Impact Assessment

The commission evaluated the adopted rule and performed an analysis of whether the adopted rule constitutes a taking under Texas Government Code, Chapter 2007. The specific purpose of the rulemaking is to facilitate implementation of new federal regulations under the NSR program. The adopted amendment would substantially advance this stated purpose by adding definitions to Chapter 101, necessary for implementation of the $PM_{2.5}$ regulations. The commission's analysis indicates that Texas Government Code, Chapter 2007 does not apply to the adopted rule because this is an action that is reasonably taken to fulfill an obligation mandated by federal law, which is exempt under Texas Government Code, §2007.003(b)(4). Specifically, EPA has promulgated new NSR regulations for $PM_{2.5}$ in accordance with 40 CFR §§52.21, 52.24, 51.160 - 51.164, 51.165, 51.165(b), 51.166, and 40 CFR Part 51, Appendix S. TCEQ, as the administrator of the NSR program for Texas, is tasked with implementing the new federal regulations in accordance with 40 CFR §51.166 and FCAA, §107(d)(1)(A)(ii) or (iii).

Nevertheless, the commission further evaluated the adopted rule and performed an assessment of whether the adopted rule constitutes a takings under Texas Government Code, Chapter 2007. The specific purpose of the adopted rule is to facilitate implementation of new federal regulations under the NSR program. The adopted rule would substantially advance this stated purpose by adding new definitions to Chapter 101, necessary for implementation of the $PM_{2.5}$ regulations.

Promulgation and enforcement of the adopted rule would be neither a statutory nor a constitutional taking of private real property. Specifically, the subject adopted regulations do not affect a landowner's rights in private real property because this rulemaking does not burden (constitutionally), nor restrict or limit the owner's right to property and reduce its value by 25% or more beyond that which would otherwise exist in the absence of the regulations. In other words, the rule does not affect private property in a manner that restricts or limits an owner's right to the property that would otherwise exist in the absence of a governmental action. Consequently, this rulemaking action does not meet the definition of a takings under Texas Government Code, §2007.002(5).

Consistency with the Coastal Management Program

The commission determined that this rulemaking action relates to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§33.201 *et seq.),* and commission rules in 30 TAC Chapter 281,

EXHIBIT 1

Subchapter B, concerning Consistency with the Texas Coastal Management Program. As required by §281.45(a)(3) and 31 TAC §505.11(b)(2), relating to Actions and Rules Subject to the Coastal Management Program, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission reviewed this action for consistency with the CMP goals and policies in accordance with the rules of the Coastal Coordination Council and determined that the action is consistent with the applicable CMP goals and policies.

The CMP goal applicable to this adopted rulemaking action is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (31 TAC §501.12(l)). The adopted amendment will indirectly benefit the environment because it will require $PM_{2.5}$ emissions to be evaluated for compliance not to exceed significance levels which will ensure that there will be fewer adverse impacts to public health and the environment. The CMP policy applicable to this rulemaking action is the policy that commission rules comply with federal regulations in 40 CFR, to protect and enhance air quality in the coastal areas (31 TAC §501.32). Therefore, in accordance with 31 TAC §505.22(e), the commission affirms that this rulemaking action is consistent with CMP goals and policies.

The commission invited public comment regarding the consistency with the coastal management program during the public comment period. No comments were received on the Coastal Management Program.

Effect on Sites Subject to the Federal Operating Permits Program

There should be no significant effect on facilities subject to the Federal Operating Permits Program since APD is currently conducting reviews of sources subject to PSD and minor NSR that meet federal definitions and requirements. Permit holders may need to conduct an evaluation and determine if a revision to a Federal Operating Permit is needed to update the applicable requirements.

Public Comment

The commission held a public hearing on December 13, 2010. The comment period closed on December 20, 2010. The commission received comments from Baker Botts L.L.P. on behalf of the Texas Industry Project (TIP), an individual, and EPA. The individual and the EPA were in support of the rule project. EPA did suggest changes to the definitions of "Direct PM Emissions" and "Secondary PM Emissions." TIP was opposed to the rule project.

Response to Comments

An individual supports this rule project and hopes TCEQ implements the new more stringent $PM_{2.5}$ and does not take the allowed state implementation plan of 10 micrometers or less. In addition, the individual would like to see some suggested guidance in this proposed rule on formation of $PM_{2.5}$ from photochemical interaction.

The commission did not make any changes to the rule in response to this comment. The TCEQ will develop non-rule guidance to address photochemical modeling.

EPA appreciates the state's proposed revisions but has concerns over the proposed definitions for "Direct PM Emissions" and "Secondary PM Emissions." EPA states the definitions are similar to, but not identical to the definitions of "Direct $PM_{2.5}$" and "$PM_{2.5}$ precursor" in 40 CFR §51.1000. EPA states that TCEQ must either use the federal definitions or provide a demonstration that its proposed definition is as stringent as or more stringent than the federal definitions. If Texas excludes NO_x as a $PM_{2.5}$ precursor, it must provide a demonstration that NO_x is not a significant contributor to ambient $PM_{2.5}$. Texas may include VOCs and ammonia and $PM_{2.5}$ precursors if Texas has identified these substances as significant contributors to ambient $PM_{2.5}$.

EPA also noted that they have proposed rulemaking for repealing the Grandfathered Provisions, Implementation of the NSR Program for $PM_{2.5}$; Notice of Proposed Rulemaking to repeal Grandfathering Provision and the end the PM_{10} Surrogate policy prior to the May 16, 2011 deadline, but has not yet taken final action.

EPA also issued a recent order in response to a Title V petition for Louisville Gas and Electric Company (LG&E), located in Trimble County, Kentucky, that discussed use of PM_{10} as a surrogate for $PM_{2.5}$. They remind TCEQ and sources in Texas to carefully consider the case law and the limits of the Surrogate policy discussed in the LG&E petition decision to determine what information and analysis needs to be included in the permit application and permit record before relying on the Surrogate policy.

The commission did make changes to the proposed text based on the comment that the definitions for "Direct PM Emissions" and "Secondary PM Emissions" are similar to, but not identical to the definitions of "Direct $PM_{2.5}$" and "$PM_{2.5}$ precursor" in 40 CFR §51.1000. The proposed definitions were derived from EPAs *Federal Register* notice (73 Federal Register 28341, May 16, 2008). The proposed definitions have been revised to be identical to the definitions of "Direct $PM_{2.5}$" and "$PM_{2.5}$ precursor" in 40 CFR §51.1000.

The commission appreciates EPA's comments and continues to track developments on case law and EPA's policies concerning PM2.5 issues.

TIP opposes the proposed amendment at this time since EPA has not identified a test method for measuring different types of PM and condensable $PM_{2.5}$. They also state at this time there are no federally approved test methods for measuring $PM_{2.5}$. While EPA has proposed changes to existing PM test methods in order to more accurately measure $PM_{2.5}$, EPA recognizes there are technical issues that need to be resolved. TIP states that rule comments reflect a strong desire for EPA to consider other $PM_{2.5}$ measurement approaches. There are concerns with sources being required to perform an emission test to demonstrate compliance with a $PM_{2.5}$ PSD Permit emission limit when there are no federally approved methods, and significant technical issues remain associated with the test methods for measuring $PM_{2.5}$. TCEQ should allow regulated entities to use test methods that are shown to be equivalent rather than limiting sources to only the method or methods promulgated by EPA. EPA issued additional $PM_{2.5}$ rules on October 20, 2010, establishing significant impact levels and de minimis monitoring levels for $PM_{2.5}$. TIP is concerned that this proposal does not address the concepts established in that rulemaking.

The commission did not make any changes to the rule in response to these comments. This rulemaking is necessary since EPA proposed rulemaking for repealing the Grandfathered provisions, Implementation of the NSR Program for $PM_{2.5}$; Notice of Proposed Rulemaking to repeal Grandfathering Provision and the end to the PM_{10} Surrogate policy prior to the May 16, 2011 deadline, which has not been finalized. In efforts to ensure the TCEQ meets regulatory requirements of the FCAA, the commission is adopting amendments to add specific definitions related

EXHIBIT 1

to $PM_{2.5}$ regulation and to address known requirements for implementation.

Subsequent to receipt of TIP's comments, EPA has published the final rule on the Methods for Measurement of Filterable PM_{10} and $PM_{2.5}$ and Measurement of Condensable PM Emissions (75 *Federal Register* 80118, December 21, 2010).

This adoption addresses known requirements to date in order to meet the May 16, 2011 deadline for implementation of the PM2.5 requirements and the end of the PM_{10} Surrogate policy. TCEQ will consider any future rulemaking, as necessary to address future state or federal regulatory requirements.

Statutory Authority

The amendment is adopted under Texas Water Code (TWC), §5.102, concerning General Powers, that provides the commission with the general powers to carry out its duties under the TWC; §5.103, concerning Rules, and §5.105, concerning General Policy, which authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendment is also adopted under THSC, §382.002, concerning Policy and Purpose, which establishes the commission purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.003, concerning Definitions; §382.011, concerning General Powers and Duties, which authorizes the commission to control the quality of the state's air; §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air; §382.051, concerning Permitting Authority of Commission; Rules, which authorizes the commission to issue a permit by rule for types of facilities that will not significantly contribute air contaminants to the atmosphere; §382.0513, concerning Permit Conditions, which authorizes the commission to establish and enforce permit conditions; and §382.0514, concerning Sampling, Monitoring, and Certification.

The adopted amendment implements THSC, §§382.002, 382.003, 382.011, 382.012, 382.051, 382.0513, and 382.0514.

§101.1. Definitions.

Unless specifically defined in the Texas Clean Air Act (TCAA) or in the rules of the commission, the terms used by the commission have the meanings commonly ascribed to them in the field of air pollution control. In addition to the terms that are defined by the TCAA, the following terms, when used in the air quality rules in this title, have the following meanings, unless the context clearly indicates otherwise.

(1) Account--For those sources required to be permitted under Chapter 122 of this title (relating to Federal Operating Permits Program), all sources that are aggregated as a site. For all other sources, any combination of sources under common ownership or control and located on one or more contiguous properties, or properties contiguous except for intervening roads, railroads, rights-of-way, waterways, or similar divisions.

(2) Acid gas flare--A flare used exclusively for the incineration of hydrogen sulfide and other acidic gases derived from natural gas sweetening processes.

(3) Agency established facility identification number--For the purposes of Subchapter F of this chapter (relating to Emissions Events and Scheduled Maintenance, Startup, and Shutdown Activities), a unique alphanumeric code required to be assigned by the owner or operator of a regulated entity that the emission inventory reporting requirements of §101.10 of this title (relating to Emissions Inventory Requirements) are applicable to each facility at that regulated entity.

(4) Ambient air--That portion of the atmosphere, external to buildings, to which the general public has access.

(5) Background--Background concentration, the level of air contaminants that cannot be reduced by controlling emissions from man-made sources. It is determined by measuring levels in non-urban areas.

(6) Boiler--Any combustion equipment fired with solid, liquid, and/or gaseous fuel used to produce steam or to heat water.

(7) Capture system--All equipment (including, but not limited to, hoods, ducts, fans, booths, ovens, dryers, etc.) that contains, collects, and transports an air pollutant to a control device.

(8) Captured facility--A manufacturing or production facility that generates an industrial solid waste or hazardous waste that is routinely stored, processed, or disposed of on a shared basis in an integrated waste management unit owned, operated by, and located within a contiguous manufacturing complex.

(9) Carbon adsorber--An add-on control device that uses activated carbon to adsorb volatile organic compounds from a gas stream.

(10) Carbon adsorption system--A carbon adsorber with an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent.

(11) Coating--A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, thinners, diluents, inks, maskants, and temporary protective coatings.

(12) Cold solvent cleaning--A batch process that uses liquid solvent to remove soils from the surfaces of parts or to dry the parts by spraying, brushing, flushing, and/or immersion while maintaining the solvent below its boiling point. Wipe cleaning (hand cleaning) is not included in this definition.

(13) Combustion unit--Any boiler plant, furnace, incinerator, flare, engine, or other device or system used to oxidize solid, liquid, or gaseous fuels, but excluding motors and engines used in propelling land, water, and air vehicles.

(14) Combustion turbine--Any gas turbine system that is gas and/or liquid fuel fired with or without power augmentation. This unit is either attached to a foundation or is portable equipment operated at a specific minor or major source for more than 90 days in any 12-month period. Two or more gas turbines powering one shaft will be treated as one unit.

(15) Commercial hazardous waste management facility--Any hazardous waste management facility that accepts hazardous waste or polychlorinated biphenyl compounds for a charge, except a captured facility that disposes only waste generated on-site or a facility that accepts waste only from other facilities owned or effectively controlled by the same person.

(16) Commercial incinerator--An incinerator used to dispose of waste material from retail and wholesale trade establishments.

(17) Commercial medical waste incinerator--A facility that accepts for incineration medical waste generated outside the property boundaries of the facility.

EXHIBIT 1

(18) Component--A piece of equipment, including, but not limited to, pumps, valves, compressors, and pressure relief valves that has the potential to leak volatile organic compounds.

(19) Condensate--Liquids that result from the cooling and/or pressure changes of produced natural gas. Once these liquids are processed at gas plants or refineries or in any other manner, they are no longer considered condensates.

(20) Construction-demolition waste--Waste resulting from construction or demolition projects.

(21) Control system or control device--Any part, chemical, machine, equipment, contrivance, or combination of same, used to destroy, eliminate, reduce, or control the emission of air contaminants to the atmosphere.

(22) Conveyorized degreasing--A solvent cleaning process that uses an automated parts handling system, typically a conveyor, to automatically provide a continuous supply of parts to be cleaned or dried using either cold solvent or vaporized solvent. A conveyorized degreasing process is fully enclosed except for the conveyor inlet and exit portals.

(23) Criteria pollutant or standard--Any pollutant for which there is a national ambient air quality standard established under 40 Code of Federal Regulations Part 50.

(24) Custody transfer--The transfer of produced crude oil and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(25) *De minimis* impact--A change in ground level concentration of an air contaminant as a result of the operation of any new major stationary source or of the operation of any existing source that has undergone a major modification that does not exceed the significance levels as specified in 40 Code of Regulations (CFR) §51.165(b)(2).

(26) Domestic wastes--The garbage and rubbish normally resulting from the functions of life within a residence.

(27) Emissions banking--A system for recording emissions reduction credits so they may be used or transferred for future use.

(28) Emissions event--Any upset event or unscheduled maintenance, startup, or shutdown activity, from a common cause that results in unauthorized emissions of air contaminants from one or more emissions points at a regulated entity.

(29) Emissions reduction credit--Any stationary source emissions reduction that has been banked in accordance with Chapter 101, Subchapter H, Division 1 of this title (relating to Emission Credit Banking and Trading).

(30) Emissions reduction credit certificate--The certificate issued by the executive director that indicates the amount of qualified reduction available for use as offsets and the length of time the reduction is eligible for use.

(31) Emissions unit--Any part of a stationary source that emits, or would have the potential to emit, any pollutant subject to regulation under the Federal Clean Air Act.

(32) Excess opacity event--When an opacity reading is equal to or exceeds 15 additional percentage points above an applicable opacity limit, averaged over a six-minute period.

(33) Exempt solvent--Those carbon compounds or mixtures of carbon compounds used as solvents that have been excluded from the definition of volatile organic compound.

(34) External floating roof--A cover or roof in an open top tank that rests upon or is floated upon the liquid being contained and is equipped with a single or double seal to close the space between the roof edge and tank shell. A double seal consists of two complete and separate closure seals, one above the other, containing an enclosed space between them.

(35) Federal motor vehicle regulation--Control of Air Pollution from Motor Vehicles and Motor Vehicle Engines, 40 Code of Federal Regulations Part 85.

(36) Federally enforceable--All limitations and conditions that are enforceable by the United States Environmental Protection Agency administrator, including those requirements developed under 40 Code of Federal Regulations (CFR) Parts 60 and 61; requirements within any applicable state implementation plan (SIP); and any permit requirements established under 40 CFR §52.21 or under regulations approved under 40 CFR Part 51, Subpart 1, including operating permits issued under the approved program that is incorporated into the SIP and that expressly requires adherence to any permit issued under such program.

(37) Flare--An open combustion unit (i.e., lacking an enclosed combustion chamber) whose combustion air is provided by uncontrolled ambient air around the flame, and that is used as a control device. A flare may be equipped with a radiant heat shield (with or without a refractory lining), but is not equipped with a flame air control damping system to control the air/fuel mixture. In addition, a flare may also use auxiliary fuel. The combustion flame may be elevated or at ground level. A vapor combustor, as defined in this section, is not considered a flare.

(38) Fuel oil--Any oil meeting the American Society for Testing and Materials (ASTM) specifications for fuel oil in ASTM D396-01, Standard Specifications for Fuel Oils, revised 2001. This includes fuel oil grades 1, 1 (Low Sulfur), 2, 2 (Low Sulfur), 4 (Light), 4, 5 (Light), 5 (Heavy), and 6.

(39) Fugitive emission--Any gaseous or particulate contaminant entering the atmosphere that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening designed to direct or control its flow.

(40) Garbage--Solid waste consisting of putrescible animal and vegetable waste materials resulting from the handling, preparation, cooking, and consumption of food, including waste materials from markets, storage facilities, and handling and sale of produce and other food products.

(41) Gasoline--Any petroleum distillate having a Reid vapor pressure of four pounds per square inch (27.6 kilopascals) or greater that is produced for use as a motor fuel, and is commonly called gasoline.

(42) Hazardous wastes--Any solid waste identified or listed as a hazardous waste by the administrator of the United States Environmental Protection Agency under the federal Solid Waste Disposal Act, as amended by Resource Conservation and Recovery Act, 42 United States Code, §§6901 *et seq.*, as amended.

(43) Heatset (used in offset lithographic printing)--Any operation where heat is required to evaporate ink oil from the printing ink. Hot air dryers are used to deliver the heat.

(44) High-bake coatings--Coatings designed to cure at temperatures above 194 degrees Fahrenheit.

(45) High-volume low-pressure spray guns--Equipment used to apply coatings by means of a spray gun that operates between

EXHIBIT 1

0.1 and 10.0 pounds per square inch gauge air pressure measured at the air cap.

(46) Incinerator--An enclosed combustion apparatus and attachments that is used in the process of burning wastes for the primary purpose of reducing its volume and weight by removing the combustibles of the waste and is equipped with a flue for conducting products of combustion to the atmosphere. Any combustion device that burns 10% or more of solid waste on a total British thermal unit (Btu) heat input basis averaged over any one-hour period is considered to be an incinerator. A combustion device without instrumentation or methodology to determine hourly flow rates of solid waste and burning 1.0% or more of solid waste on a total Btu heat input basis averaged annually is also considered to be an incinerator. An open-trench type (with closed ends) combustion unit may be considered an incinerator when approved by the executive director. Devices burning untreated wood scraps, waste wood, or sludge from the treatment of wastewater from the process mills as a primary fuel for heat recovery are not included under this definition. Combustion devices permitted under this title as combustion devices other than incinerators will not be considered incinerators for application of any rule within this title provided they are installed and operated in compliance with the condition of all applicable permits.

(47) Industrial boiler--A boiler located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes.

(48) Industrial furnace--Cement kilns; lime kilns; aggregate kilns; phosphate kilns; coke ovens; blast furnaces; smelting, melting, or refining furnaces, including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, or foundry furnaces; titanium dioxide chloride process oxidation reactors; methane reforming furnaces; pulping recovery furnaces; combustion devices used in the recovery of sulfur values from spent sulfuric acid; and other devices the commission may list.

(49) Industrial solid waste--Solid waste resulting from, or incidental to, any process of industry or manufacturing, or mining or agricultural operations, classified as follows.

(A) Class 1 industrial solid waste or Class 1 waste is any industrial solid waste designated as Class 1 by the executive director as any industrial solid waste or mixture of industrial solid wastes that because of its concentration or physical or chemical characteristics is toxic, corrosive, flammable, a strong sensitizer or irritant, a generator of sudden pressure by decomposition, heat, or other means, and may pose a substantial present or potential danger to human health or the environment when improperly processed, stored, transported, or otherwise managed, including hazardous industrial waste, as defined in §335.1 and §335.505 of this title (relating to Definitions and Class 1 Waste Determination).

(B) Class 2 industrial solid waste is any individual solid waste or combination of industrial solid wastes that cannot be described as Class 1 or Class 3, as defined in §335.506 of this title (relating to Class 2 Waste Determination).

(C) Class 3 industrial solid waste is any inert and essentially insoluble industrial solid waste, including materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable as defined in §335.507 of this title (relating to Class 3 Waste Determination).

(50) Internal floating cover--A cover or floating roof in a fixed roof tank that rests upon or is floated upon the liquid being contained, and is equipped with a closure seal or seals to close the space between the cover edge and tank shell.

(51) Leak--A volatile organic compound concentration greater than 10,000 parts per million by volume or the amount specified by applicable rule, whichever is lower; or the dripping or exuding of process fluid based on sight, smell, or sound.

(52) Liquid fuel--A liquid combustible mixture, not derived from hazardous waste, with a heating value of at least 5,000 British thermal units per pound.

(53) Liquid-mounted seal--A primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof around the circumference of the tank.

(54) Maintenance area--A geographic region of the state previously designated nonattainment under the Federal Clean Air Act Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under 42 United States Code, §7505a, as described in 40 Code of Federal Regulations Part 81 and in pertinent *Federal Register* notices.

(55) Maintenance plan--A revision to the applicable state implementation plan, meeting the requirements of 42 United States Code, §7505a.

(56) Marine vessel--Any watercraft used, or capable of being used, as a means of transportation on water, and that is constructed or adapted to carry, or that carries, oil, gasoline, or other volatile organic liquid in bulk as a cargo or cargo residue.

(57) Mechanical shoe seal--A metal sheet that is held vertically against the storage tank wall by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(58) Medical waste--Waste materials identified by the Department of State Health Services as "special waste from health care-related facilities" and those waste materials commingled and discarded with special waste from health care-related facilities.

(59) Metropolitan Planning Organization--That organization designated as being responsible, together with the state, for conducting the continuing, cooperative, and comprehensive planning process under 23 United States Code (USC), §134 and 49 USC, §1607.

(60) Mobile emissions reduction credit--The credit obtained from an enforceable, permanent, quantifiable, and surplus (to other federal and state rules) emissions reduction generated by a mobile source as set forth in Chapter 114, Subchapter F of this title (relating to Vehicle Retirement and Mobile Emission Reduction Credits), and that has been banked in accordance with Subchapter H, Division 1 of this chapter.

(61) Motor vehicle--A self-propelled vehicle designed for transporting persons or property on a street or highway.

(62) Motor vehicle fuel dispensing facility--Any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

(63) Municipal solid waste--Solid waste resulting from, or incidental to, municipal, community, commercial, institutional, and recreational activities, including garbage, rubbish, ashes, street cleanings, dead animals, abandoned automobiles, and all other solid waste except industrial solid waste.

(64) Municipal solid waste facility--All contiguous land, structures, other appurtenances, and improvements on the land used

EXHIBIT 1

for processing, storing, or disposing of solid waste. A facility may be publicly or privately owned and may consist of several processing, storage, or disposal operational units, e.g., one or more landfills, surface impoundments, or combinations of them.

(65) Municipal solid waste landfill--A discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 Code of Federal Regulations §257.2. A municipal solid waste landfill (MSWLF) unit also may receive other types of Resource Conservation and Recovery Act Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small-quantity generator waste, and industrial solid waste. Such a landfill may be publicly or privately owned. An MSWLF unit may be a new MSWLF unit, an existing MSWLF unit, or a lateral expansion.

(66) National ambient air quality standard--Those standards established under 42 United States Code, §7409, including standards for carbon monoxide, lead, nitrogen dioxide, ozone, inhalable particulate matter, and sulfur dioxide.

(67) Net ground-level concentration--The concentration of an air contaminant as measured at or beyond the property boundary minus the representative concentration flowing onto a property as measured at any point. Where there is no expected influence of the air contaminant flowing onto a property from other sources, the net ground level concentration may be determined by a measurement at or beyond the property boundary.

(68) New source--Any stationary source, the construction or modification of which was commenced after March 5, 1972.

(69) Nitrogen oxides (NO_x)--The sum of the nitric oxide and nitrogen dioxide in the flue gas or emission point, collectively expressed as nitrogen dioxide.

(70) Nonattainment area--A defined region within the state that is designated by the United States Environmental Protection Agency (EPA) as failing to meet the national ambient air quality standard (NAAQS or standard) for a pollutant for which a standard exists. The EPA will designate the area as nonattainment under the provisions of 42 United States Code, §7407(d). For the official list and boundaries of nonattainment areas, see 40 Code of Federal Regulations (CFR) Part 81 and pertinent *Federal Register* notices. The designations and classifications for the one-hour ozone national ambient air quality standard in 40 CFR Part 81 were retained for the purpose of anti-backsliding and upon determination by the EPA that any requirement is no longer required for purposes of anti-backsliding, then that requirement no longer applies.

(71) Non-reportable emissions event--Any emissions event that in any 24-hour period does not result in an unauthorized emission from any emissions point equal to or in excess of the reportable quantity as defined in this section.

(72) Opacity--The degree to which an emission of air contaminants obstructs the transmission of light expressed as the percentage of light obstructed as measured by an optical instrument or trained observer.

(73) Open-top vapor degreasing--A batch solvent cleaning process that is open to the air and that uses boiling solvent to create solvent vapor used to clean or dry parts through condensation of the hot solvent vapors on the parts.

(74) Outdoor burning--Any fire or smoke-producing process that is not conducted in a combustion unit.

(75) Particulate matter--Any material, except uncombined water, that exists as a solid or liquid in the atmosphere or in a gas stream at standard conditions.

(A) Particulate matter with diameters less than 10 micrometers (PM_{10})--Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers as measured by a reference method based on 40 Code of Federal Regulations (CFR) Part 50, Appendix J, and designated in accordance with 40 CFR Part 53, or by an equivalent method designated with that Part 53.

(B) Particulate matter with diameters less than 2.5 micrometers ($PM_{2.5}$)--Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured by a reference method based on 40 CFR Part 50, Appendix L, and designated in accordance with 40 CFR Part 53, or by an equivalent method designated with that Part 53.

(76) Particulate matter emissions--All finely-divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by United States Environmental Protection Agency Reference Method 5, as specified at 40 Code of Federal Regulations (CFR) Part 60, Appendix A, modified to include particulate caught by an impinger train; by an equivalent or alternative method, as specified at 40 CFR Part 51; or by a test method specified in an approved state implementation plan.

(A) Direct PM emissions--Solid particles emitted directly from an air emissions source or activity, or gaseous emissions or liquid droplets from an air emissions source or activity which condense to form particulate matter at ambient temperatures. Direct 2.5 micrometers ($PM_{2.5}$) emissions include elemental carbon, directly emitted organic carbon, directly emitted sulfate, directly emitted nitrate, and other inorganic particles (including but not limited to crustal materials, metals, and sea salt).

(B) Secondary PM emissions--Those air pollutants other than $PM_{2.5}$ direct emissions that contribute to the formation of $PM_{2.5}$. $PM_{2.5}$ precursors include sulfur dioxide (SO_2), NO_x, volatile organic compounds, and ammonia.

(77) Petroleum refinery--Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of crude oil, or through the redistillation, cracking, extraction, reforming, or other processing of unfinished petroleum derivatives.

(78) $PM_{2.5}$ emissions--Finely-divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternative method specified in 40 Code of Federal Regulations Part 51, or by a test method approved under a state implementation plan or under a United States Environmental Protection Agency delegation or approval.

(79) PM_{10} emissions--Finely-divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal ten micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternative method specified in 40 Code of Federal Regulations Part 51, or by a test method specified in an approved state implementation plan.

(80) Polychlorinated biphenyl compound--A compound subject to 40 Code of Federal Regulations Part 761.

(81) Process or processes--Any action, operation, or treatment embracing chemical, commercial, industrial, or manufacturing factors such as combustion units, kilns, stills, dryers, roasters, and equipment used in connection therewith, and all other methods or forms

EXHIBIT 1

of manufacturing or processing that may emit smoke, particulate matter, gaseous matter, or visible emissions.

(82) Process weight per hour--"Process weight" is the total weight of all materials introduced or recirculated into any specific process that may cause any discharge of air contaminants into the atmosphere. Solid fuels charged into the process will be considered as part of the process weight, but liquid and gaseous fuels and combustion air will not. The "process weight per hour" will be derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during that the equipment used to conduct the process is idle. For continuous operation, the "process weight per hour" will be derived by dividing the total process weight for a 24-hour period by 24.

(83) Property--All land under common control or ownership coupled with all improvements on such land, and all fixed or movable objects on such land, or any vessel on the waters of this state.

(84) Reasonable further progress--Annual incremental reductions in emissions of the applicable air contaminant that are sufficient to provide for attainment of the applicable national ambient air quality standard in the designated nonattainment areas by the date required in the state implementation plan.

(85) Regulated entity--All regulated units, facilities, equipment, structures, or sources at one street address or location that are owned or operated by the same person. The term includes any property under common ownership or control identified in a permit or used in conjunction with the regulated activity at the same street address or location. Owners or operators of pipelines, gathering lines, and flowlines under common ownership or control in a particular county may be treated as a single regulated entity for purposes of assessment and regulation of emissions events.

(86) Remote reservoir cold solvent cleaning--Any cold solvent cleaning operation in which liquid solvent is pumped to a sink-like work area that drains solvent back into an enclosed container while parts are being cleaned, allowing no solvent to pool in the work area.

(87) Reportable emissions event--Any emissions event that in any 24-hour period, results in an unauthorized emission from any emissions point equal to or in excess of the reportable quantity as defined in this section.

(88) Reportable quantity (RQ)--Is as follows:

(A) for individual air contaminant compounds and specifically listed mixtures by name or Chemical Abstracts Service (CAS) number, either:

(i) the lowest of the quantities:

(I) listed in 40 Code of Federal Regulations (CFR) Part 302, Table 302.4, the column "final RQ";

(II) listed in 40 CFR Part 355, Appendix A, the column "Reportable Quantity"; or

(III) listed as follows:

(-a-) acetaldehyde - 1,000 pounds, except in the Houston-Galveston-Brazoria (HGB) and Beaumont-Port Arthur (BPA) ozone nonattainment areas as defined in paragraph (70) of this section, where the RQ must be 100 pounds;

(-b-) butanes (any isomer) - 5,000 pounds;

(-c-) butenes (any isomer, except 1,3-butadiene) - 5,000 pounds, except in the HGB and BPA ozone nonattainment areas as defined in paragraph (70) of this section, where the RQ must be 100 pounds;

(-d-) carbon monoxide - 5,000 pounds;

(-e-) 1-chloro-1,1-difluoroethane (HCFC-142b) - 5,000 pounds;

(-f-) chlorodifluoromethane (HCFC-22) - 5,000 pounds;

(-g-) 1-chloro-1-fluoroethane (HCFC-151a) - 5,000 pounds;

(-h-) chlorofluoromethane (HCFC-31) - 5,000 pounds;

(-i-) chloropentafluoroethane (CFC-115) - 5,000 pounds;

(-j-) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124) - 5,000 pounds;

(-k-) 1-chloro-1,1,2,2 tetrafluoroethane (HCFC-124a) - 5,000 pounds;

(-l-) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee) - 5,000 pounds;

(-m-) decanes (any isomer) - 5,000 pounds;

(-n-) 1,1-dichloro-1-fluoroethane (HCFC-141b) - 5,000 pounds;

(-o-) 3,3-dichloro-1,1,2,2-pentafluoropropane (HCFC-225ca) - 5,000 pounds;

(-p-) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb) - 5,000 pounds;

(-q-) 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFR-114) - 5,000 pounds;

(-r-) 1,1-dichlorotetrafluoroethane (CFC-114a) - 5,000 pounds;

(-s-) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a) - 5,000 pounds;

(-t-) 1,1-difluoroethane (HFC-152a) - 5,000 pounds;

(-u-) difluoromethane (HFC-32) - 5,000 pounds;

(-v-) ethanol - 5,000 pounds;

(-w-) ethylene - 5,000 pounds, except in the HGB and BPA ozone nonattainment areas as defined in paragraph (70) of this section, where the RQ must be 100 pounds;

(-x-) ethylfluoride (HFC-161) - 5,000 pounds;

(-y-) 1,1,1,2,3,3,3-heptafluoropropane (HFC-227ea) - 5,000 pounds;

(-z-) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa) - 5,000 pounds;

(-aa-) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea) - 5,000 pounds;

(-bb-) hexanes (any isomer) - 5,000 pounds;

(-cc-) isopropyl alcohol - 5,000 pounds;

(-dd-) mineral spirits - 5,000 pounds;

(-ee-) octanes (any isomer) - 5,000 pounds;

(-ff-) oxides of nitrogen - 200 pounds in ozone nonattainment, ozone maintenance, early action compact areas, Nueces County, and San Patricio County, and 5,000 pounds in all other areas of the state, which should be used instead of the RQs for nitrogen oxide and nitrogen dioxide provided in 40 CFR Part 302, Table 302.4, the column "final RQ";

(-gg-) pentachlorofluoroethane (CFR-111) - 5,000 pounds;

(-hh-) 1,1,1,3,3-pentafluorobutane (HFC-365mfc) - 5,000 pounds;

(-ii-) pentafluoroethane (HFC-125) - 5,000 pounds;

(-jj-) 1,1,2,2,3-pentafluoropropane (HFC-245ca) - 5,000 pounds;

EXHIBIT 1

(-kk-) 1,1,2,3,3-pentafluoropropane (HFC-245ea) - 5,000 pounds;

(-ll-) 1,1,1,2,3-pentafluoropropane (HFC-245eb) - 5,000 pounds;

(-mm-) 1,1,1,3,3-pentafluoropropane (HFC-245fa) - 5,000 pounds;

(-nn-) pentanes (any isomer) - 5,000 pounds;

(-oo-) propane - 5,000 pounds;

(-pp-) propylene - 5,000 pounds, except in the HGB and BPA ozone nonattainment areas as defined in paragraph (70) of this section, where the RQ must be 100 pounds;

(-qq-) 1,1,2,2-terachlorodifluoroethane (CFR-112) - 5,000 pounds;

(-rr-) 1,1,1,2-tetrachlorodifluoroethane (CFC-112a) - 5,000 pounds;

(-ss-) 1,1,2,2-tetrafluoroethane (HFC-134) - 5,000 pounds;

(-tt-) 1,1,1,2-tetrafluoroethane (HFC-134a) - 5,000 pounds;

(-uu-) 1,1,2-trichloro-1,2,2-trifluoroethane (CFR-113) - 5,000 pounds;

(-vv-) 1,1,1-trichloro-2,2,2-trilfloroethane (CFC-113a) - 5,000 pounds;

(-ww-) 1,1,1-trifluoro-2,2-dichloroethane (HCFC-123) - 5,000 pounds;

(-xx-) 1,1,1-trifluoroethane (HFC-143a) - 5,000 pounds;

(-yy-) trifluoromethane (HFC-23) - 5,000 pounds; or

(-zz-) toluene - 1,000 pounds, except in the HGB and BPA ozone nonattainment areas as defined in paragraph (70) of this section, where the RQ must be 100 pounds;

(ii) if not listed in clause (i) of this subparagraph, 100 pounds;

(B) for mixtures of air contaminant compounds:

(i) where the relative amount of individual air contaminant compounds is known through common process knowledge or prior engineering analysis or testing, any amount of an individual air contaminant compound that equals or exceeds the amount specified in subparagraph (A) of this paragraph;

(ii) where the relative amount of individual air contaminant compounds in subparagraph (A)(i) of this paragraph is not known, any amount of the mixture that equals or exceeds the amount for any single air contaminant compound that is present in the mixture and listed in subparagraph (A)(i) of this paragraph;

(iii) where each of the individual air contaminant compounds listed in subparagraph (A)(i) of this paragraph are known to be less than 0.02% by weight of the mixture, and each of the other individual air contaminant compounds covered by subparagraph (A)(ii) of this paragraph are known to be less than 2.0% by weight of the mixture, any total amount of the mixture of air contaminant compounds greater than or equal to 5,000 pounds; or

(iv) where natural gas excluding carbon dioxide, water, nitrogen, methane, ethane, noble gases, hydrogen, and oxygen or air emissions from crude oil are known to be in an amount greater than or equal to 5,000 pounds or the associated hydrogen sulfide and mercaptans in a total amount greater than 100 pounds, whichever occurs first;

(C) for opacity from boilers and combustion turbines as defined in this section fueled by natural gas, coal, lignite, wood, fuel oil containing hazardous air pollutants at a concentration of less than 0.02% by weight, opacity that is equal to or exceeds 15 additional percentage points above the applicable limit, averaged over a six-minute period. Opacity is the only RQ applicable to boilers and combustion turbines described in this paragraph; or

(D) for facilities where air contaminant compounds are measured directly by a continuous emission monitoring system providing updated readings at a minimum 15-minute interval an amount, approved by the executive director based on any relevant conditions and a screening model, that would be reported prior to ground level concentrations reaching at any distance beyond the closest regulated entity property line:

(i) less than one-half of any applicable ambient air standards; and

(ii) less than two times the concentration of applicable air emission limitations.

(89) Rubbish--Nonputrescible solid waste, consisting of both combustible and noncombustible waste materials. Combustible rubbish includes paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, yard trimmings, leaves, and similar materials. Noncombustible rubbish includes glass, crockery, tin cans, aluminum cans, metal furniture, and like materials that will not burn at ordinary incinerator temperatures (1,600 degrees Fahrenheit to 1,800 degrees Fahrenheit).

(90) Scheduled maintenance, startup, or shutdown activity--For activities with unauthorized emissions that are expected to exceed a reportable quantity (RQ), a scheduled maintenance, startup, or shutdown activity is an activity that the owner or operator of the regulated entity whether performing or otherwise affected by the activity, provides prior notice and a final report as required by §101.211 of this title (relating to Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements); the notice or final report includes the information required in §101.211 of this title; and the actual unauthorized emissions from the activity do not exceed the emissions estimates submitted in the initial notification by more than an RQ. For activities with unauthorized emissions that are not expected to, and do not, exceed an RQ, a scheduled maintenance, startup, or shutdown activity is one that is recorded as required by §101.211 of this title. Expected excess opacity events as described in §101.201(e) of this title (relating to Emissions Event Reporting and Recordkeeping Requirements) resulting from scheduled maintenance, startup, or shutdown activities are those that provide prior notice (if required), and are recorded and reported as required by §101.211 of this title.

(91) Sludge--Any solid or semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant; water supply treatment plant, exclusive of the treated effluent from a wastewater treatment plant; or air pollution control equipment.

(92) Smoke--Small gas-born particles resulting from incomplete combustion consisting predominately of carbon and other combustible material and present in sufficient quantity to be visible.

(93) Solid waste--Garbage, rubbish, refuse, sludge from a waste water treatment plant, water supply treatment plant, or air pollution control equipment, and other discarded material, including solid, liquid, semisolid, or containerized gaseous material resulting from industrial, municipal, commercial, mining, and agricultural operations and from community and institutional activities. The term does not include:

(A) solid or dissolved material in domestic sewage, or solid or dissolved material in irrigation return flows, or industrial dis-

EXHIBIT 1

charges subject to regulation by permit issued under the Texas Water Code, Chapter 26;

(B) soil, dirt, rock, sand, and other natural or man-made inert solid materials used to fill land, if the object of the fill is to make the land suitable for the construction of surface improvements; or

(C) waste materials that result from activities associated with the exploration, development, or production of oil or gas, or geothermal resources, and other substance or material regulated by the Railroad Commission of Texas under Natural Resources Code, §91.101, unless the waste, substance, or material results from activities associated with gasoline plants, natural gas liquids processing plants, pressure maintenance plants, or repressurizing plants and is hazardous waste as defined by the administrator of the United States Environmental Protection Agency under the federal Solid Waste Disposal Act, as amended by Resource Conservation and Recovery Act, as amended (42 United States Code, §§6901 *et seq.).*

(94) Sour crude--A crude oil that will emit a sour gas when in equilibrium at atmospheric pressure.

(95) Sour gas--Any natural gas containing more than 1.5 grains of hydrogen sulfide per 100 cubic feet, or more than 30 grains of total sulfur per 100 cubic feet.

(96) Source--A point of origin of air contaminants, whether privately or publicly owned or operated. Upon request of a source owner, the executive director shall determine whether multiple processes emitting air contaminants from a single point of emission will be treated as a single source or as multiple sources.

(97) Special waste from health care-related facilities--A solid waste that if improperly treated or handled, may serve to transmit infectious disease(s) and that is comprised of the following: animal waste, bulk blood and blood products, microbiological waste, pathological waste, and sharps.

(98) Standard conditions--A condition at a temperature of 68 degrees Fahrenheit (20 degrees Centigrade) and a pressure of 14.7 pounds per square inch absolute (101.3 kiloPascals).

(99) Standard metropolitan statistical area--An area consisting of a county or one or more contiguous counties that is officially so designated by the United States Bureau of the Budget.

(100) Submerged fill pipe--A fill pipe that extends from the top of a tank to have a maximum clearance of six inches (15.2 centimeters) from the bottom or, when applied to a tank that is loaded from the side, that has a discharge opening entirely submerged when the pipe used to withdraw liquid from the tank can no longer withdraw liquid in normal operation.

(101) Sulfur compounds--All inorganic or organic chemicals having an atom or atoms of sulfur in their chemical structure.

(102) Sulfuric acid mist/sulfuric acid--Emissions of sulfuric acid mist and sulfuric acid are considered to be the same air contaminant calculated as H_2SO_4 and must include sulfuric acid liquid mist, sulfur trioxide, and sulfuric acid vapor as measured by Test Method 8 in 40 Code of Federal Regulations Part 60, Appendix A.

(103) Sweet crude oil and gas--Those crude petroleum hydrocarbons that are not "sour" as defined in this section.

(104) Total suspended particulate--Particulate matter as measured by the method described in 40 Code of Federal Regulations Part 50, Appendix B.

(105) Transfer efficiency--The amount of coating solids deposited onto the surface or a part of product divided by the total amount of coating solids delivered to the coating application system.

(106) True vapor pressure--The absolute aggregate partial vapor pressure, measured in pounds per square inch absolute, of all volatile organic compounds at the temperature of storage, handling, or processing.

(107) Unauthorized emissions--Emissions of any air contaminant except carbon dioxide, water, nitrogen, methane, ethane, noble gases, hydrogen, and oxygen that exceed any air emission limitation in a permit, rule, or order of the commission or as authorized by Texas Clean Air Act, §382.0518(g).

(108) Unplanned maintenance, startup, or shutdown activity--For activities with unauthorized emissions that are expected to exceed a reportable quantity or with excess opacity, an unplanned maintenance, startup, or shutdown activity is:

(A) a startup or shutdown that was not part of normal or routine facility operations, is unpredictable as to timing, and is not the type of event normally authorized by permit; or

(B) a maintenance activity that arises from sudden and unforeseeable events beyond the control of the operator that requires the immediate corrective action to minimize or avoid an upset or malfunction.

(109) Upset event--An unplanned and unavoidable breakdown or excursion of a process or operation that results in unauthorized emissions. A maintenance, startup, or shutdown activity that was reported under §101.211 of this title (relating to Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements), but had emissions that exceeded the reported amount by more than a reportable quantity due to an unplanned and unavoidable breakdown or excursion of a process or operation is an upset event.

(110) Utility boiler--A boiler used to produce electric power, steam, or heated or cooled air, or other gases or fluids for sale.

(111) Vapor combustor--A partially enclosed combustion device used to destroy volatile organic compounds by smokeless combustion without extracting energy in the form of process heat or steam. The combustion flame may be partially visible, but at no time does the device operate with an uncontrolled flame. Auxiliary fuel and/or a flame air control damping system that can operate at all times to control the air/fuel mixture to the combustor's flame zone, may be required to ensure smokeless combustion during operation.

(112) Vapor-mounted seal--A primary seal mounted so there is an annular space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof or cover.

(113) Vent--Any duct, stack, chimney, flue, conduit, or other device used to conduct air contaminants into the atmosphere.

(114) Visible emissions--Particulate or gaseous matter that can be detected by the human eye. The radiant energy from an open flame is not considered a visible emission under this definition.

(115) Volatile organic compound--As defined in 40 Code of Federal Regulations §51.100(s), except §51.100(s)(2) - (4), as amended on January 21, 2009 (74 FR 3441).

(116) Volatile organic compound (VOC) water separator--Any tank, box, sump, or other container in which any VOC, floating on or contained in water entering such tank, box, sump, or other container, is physically separated and removed from such water prior to outfall, drainage, or recovery of such water.

EXHIBIT 1

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

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Robert Martinez
Director, Environmental Law Division
Texas Commission on Environmental Quality
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Proposal publication date: November 19, 2010
For further information, please call: (512) 239-0779

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CHAPTER 106. PERMITS BY RULE
SUBCHAPTER A. GENERAL REQUIREMENTS
30 TAC §106.4

The Texas Commission on Environmental Quality (TCEQ, agency, or commission) adopts the amendment to §106.4.

The amendment is adopted *without change* to the proposed text as published in the November 19, 2010, issue of the *Texas Register* (35 TexReg 10157) and will not be republished.

The amended section will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the state implementation plan (SIP).

Background and Summary of the Factual Basis for the Adopted Rule

The commission adopts the amendment to §106.4 to address the applicable significant emission thresholds for particulate matter (PM), PM 10 micrometers or less (PM_{10}), and PM 2.5 micrometers or less ($PM_{2.5}$) to provide clarity to the permitting process for PM.

On July 18, 1997, the EPA revised the National Ambient Air Quality Standards (NAAQS) for PM to add new standards for $PM_{2.5}$ as an indicator. However, at that time, certain difficulties regarding implementation of the $PM_{2.5}$ regulations remained, including the lack of necessary tools to calculate emissions of $PM_{2.5}$ and related precursors, the lack of adequate modeling techniques to project ambient impacts, and the lack of $PM_{2.5}$ monitoring sites. Therefore, on October 23, 1997, EPA issued a memorandum providing for PM_{10} to be used as a surrogate for $PM_{2.5}$. EPA reaffirmed use of the surrogate policy in a memorandum dated April 5, 2005.

On November 1, 2005, the EPA proposed regulations to implement the New Source Review (NSR) program for $PM_{2.5}$. EPA published the bulk of the major NSR program final regulations for $PM_{2.5}$ on May 16, 2008 (effective on July 15, 2008). EPA noted that this final action, with EPA's proposed rule on increments, significant impact levels (SILs), and significant monitoring concentration (SMC) when final, will represent the final elements necessary to implement a $PM_{2.5}$ Prevention of Significant Deterioration (PSD) program. EPA published the final rule on increments, SILs, and SMC on October 20, 2010 (effective December 20, 2010 for the SILs and SMC, and October 20, 2011 for the increment demonstration). On February 11, 2010, the EPA proposed two actions that would end the EPA's 1997 policy allowing sources and permitting authorities to use a demonstration of compliance with the PSD requirements for PM_{10} as a surrogate for meeting the PSD requirements for $PM_{2.5}$. In the first action, the EPA proposed to repeal the "grandfathering" provision for $PM_{2.5}$ contained in the federal PSD program. This provision allows applicants for proposed new major sources and major modifications that have submitted a complete PSD permit application prior to the effective date of an amendment to the PSD regulations but have not yet received final and effective PSD permit, to continue relying on information already in the application rather than immediately having to amend applications to demonstrate compliance with the new PSD requirements. In the second action, EPA also proposed to end early the PM_{10} Surrogate Policy applicable in states that have an approved PSD program in their SIP. The three-year transition period for revising the SIP and for use of the surrogate policy ends in May 2011, unless revised by EPA. In an effort to ensure the TCEQ meets regulatory requirements of the Federal Clean Air Act (FCAA), the commission is adopting amendments to 30 TAC Chapter 101, General Air Quality Rules, and to Chapter 106 to add specific definitions related to $PM_{2.5}$ regulation, and to address the known requirements for implementation.

Existing federal regulations require both major and minor NSR programs to address any pollutant for which there is a NAAQS and precursors to the formation of such pollutant when identified for regulation by the EPA. TCEQ rules outline the requirements for both major and minor NSR programs under 30 TAC §116.110, Applicability. This section requires any person who plans to construct any new facility or to engage in the modification of any existing facility which may emit air contaminants into the air of this state to obtain a permit under §116.111, General Application, or satisfy the conditions for another authorization type as listed within that section. Chapter 116, Subchapter B, New Source Review Permits, outlines the general requirements for both minor and major NSR permits. Specifically, §116.111 covers the general application requirements for both major and minor NSR. Minor NSR sources are required to comply with §116.111 except §116.111(a)(2)(H) and (I), which only apply to major NSR (Nonattainment and PSD).

For precursors, EPA provided some clarification regarding regulation of $PM_{2.5}$ precursors in the May 16, 2008, $PM_{2.5}$ implementation rule, stating that generally where scientific data and modeling analyses provide reasonable certainty that the pollutant's emissions are a significant contributor to ambient $PM_{2.5}$ concentrations, EPA believes that pollutant should be identified as a "regulated NSR pollutant" and subject to the $PM_{2.5}$ NSR provisions. Conversely, where the effect of a pollutant's emission on ambient $PM_{2.5}$ concentrations is subject to substantial uncertainty, such that in some circumstances the pollutant may not result in the formation of $PM_{2.5}$, or control of the pollutant may have no effect or may even aggravate air quality, EPA generally believes it is unreasonable to establish a nationally-applicable presumption that the pollutant is a regulated NSR pollutant subject to the requirements of NSR for $PM_{2.5}$. Therefore, EPA has established certain presumptions regarding the $PM_{2.5}$ precursors, sulfur dioxide (SO_2), nitrogen oxide (NO_x), volatile organic compound (VOC) and ammonia. Specifically, EPA presumes SO_2 and NO_x to be significant contributors to ambient $PM_{2.5}$ concentrations in all areas and thus, have termed these pollutants "presumed in," meaning requiring regulation as a precursor for $PM_{2.5}$. Conversely, the final rule does not require regulation of VOC or ammonia as a precursor to $PM_{2.5}$ for the NSR program because additional research and technical tools are necessary to characterize the emissions inventories for VOC, and there

EXHIBIT 1

is considerable uncertainty related to ammonia as a precursor. Therefore, EPA has categorized these pollutants as "presumed out," meaning not regulated as a precursor for $PM_{2.5}$ regulation. However, states have the option to exclude NO_x, as a precursor by demonstrating that NO_x emissions are not a significant contributor to ambient $PM_{2.5}$ concentrations in a particular area. In addition, states have the option of identifying VOC and/or ammonia as precursor(s) by demonstrating that emissions for VOC and/or ammonia are a significant contributor in an area, and thus, should be subject to major NSR.

Furthermore, in the Final Rule for increments, SILs, and SMC, EPA removed the reference to "direct" $PM_{2.5}$ emissions, to allow for consideration of precursor emissions when determining whether the air quality impact of a major new source or modification would be less than the $PM_{2.5}$ SILs. EPA has indicated that estimating techniques are being developed that will be able to be applied to the $PM_{2.5}$ analysis in the near future. Removing the reference to direct emissions in the rule also allows EPA to include precursor emissions through guidance without notice and comment required for rulemaking. Furthermore, EPA may require precursors be included in "photochemical" modeling to obtain concentrations that could include direct and secondarily formed PM2.5 in the source impact and air quality analyses.

EPA has also provided clarification regarding regulation of condensable PM under the $PM_{2.5}$ regulations stating it will not require states to address condensable PM in establishing enforceable emissions limits for either PM_{10} or $PM_{2.5}$ in NSR permits during the transitional period that ended on January 1, 2011. During this transitional period, EPA assessed the capabilities of test methods available for measuring condensable emissions, publishing a final rule for methods of measuring filterable PM_{10} and $PM_{2.5}$ and measuring condensable PM emissions on December 21, 2010. The final rule promulgates amendments to Methods 201A and 202. The final amendments to Method 201A add a particulate-sizing device to allow for sampling of PM with mean aerodynamic diameters less than or equal to $PM_{2.5}$. The final amendments to Method 202 revise the sample collection and recovery procedures of the method to reduce the formation of reaction artifacts that could lead to inaccurate measurements of condensable PM. Additionally, the final amendments to Method 202 eliminate most of the hardware and analytical options in the existing method, thereby increasing the precision of the method and improving the consistency in the measurements obtained between source tests performed under different regulatory authorities. This final rule became effective on January 1, 2011.

Finally, EPA clarified that there will be no changes to the implementation of Best Available Control Technology (BACT) requirements for $PM_{2.5}$ at major sources that are subject to the PSD program. If a new major source will emit, or have the potential to emit, a significant amount of a regulated NSR pollutant in an attainment area for that pollutant, the source must apply BACT for each emissions unit that emits the pollutant. In addition, if a physical change or operational change at an existing major source will result in a significant emissions increase and significant net emissions increase of a regulated NSR pollutant, the source must apply BACT to each proposed emissions unit experiencing a net increase in emissions of that pollutant as a result of the physical or operational change in the unit. Under the $PM_{2.5}$ PSD program, these requirements will apply to direct $PM_{2.5}$ emissions; SO_2 emissions; and NO_x emissions, unless states demonstrate that NO_x is not a significant contributor to ambient $PM_{2.5}$ concentrations in that area; and to VOC if identified by a state as a precursor in the $PM_{2.5}$ attainment area where the source is located. Although EPA has specified that direct emissions of $PM_{2.5}$ at or above the significant emission rate (SER) would trigger a BACT analysis, EPA has not specified whether a precursor's emissions above the precursor's SER would trigger a BACT analysis for $PM_{2.5}$ if direct emissions of $PM_{2.5}$ are below the $PM_{2.5}$ SER. Therefore, it is presumed that BACT for direct $PM_{2.5}$ will apply only if direct $PM_{2.5}$ emissions are significant, and BACT for precursor pollutants will apply only if the precursor emissions equal or exceed the specific SER for the precursor pollutant.

Section Discussion

§106.4, Requirements for Permitting by Rule

The commission adopts the amendment to §106.4 to address the applicable significant emission thresholds established by EPA for PM, PM_{10}, and $PM_{2.5}$. The significant emission threshold for PM is 25 tons per year (tpy), PM_{10} is 15 tpy, and $PM_{2.5}$ is 10 tpy. Section 106.4(a)(1) and (4) has been revised to include these changes. This change will provide clarity to the permitting process for PM by including the significant levels for PM, PM_{10}, and $PM_{2.5}$. It will not affect existing claims and is only applicable to new or modified claims under this chapter, not currently operating authorized facilities under standard exemption or permit by rule (PBR) in accordance with §106.2, Applicability.

Final Regulatory Impact Analysis

The commission reviewed the adopted rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the adopted rule does not meet the definition of a "major environmental rule." Texas Government Code, §2001.0225 states that a "major environmental rule" is "a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state." While the purpose of this rulemaking is to increase protection of the environment and reduce risk to human health, it is not expected that this rulemaking will adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, or the public health and safety of the state or a sector of the state.

Furthermore, while the adopted rulemaking does not constitute a major environmental rule, even if it did, a regulatory impact analysis would not be required because the adopted rulemaking does not meet any of the four applicability criteria for requiring a regulatory impact analysis for a major environmental rule. Texas Government Code, §2001.0225 applies only to a major environmental rule which: 1) exceeds a standard set by federal law, unless the rule is specifically required by state law; 2) exceeds an express requirement of state law, unless the rule is specifically required by federal law; 3) exceeds a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopts a rule solely under the general powers of the agency instead of under a specific state law. The adopted rulemaking does not meet any of the four applicability criteria listed in Texas Government Code, §2001.0225 because: 1) the proposed rulemaking is designed to meet, not exceed the relevant standard set by federal law; 2) parts of the proposed rulemaking are directly required by state law; 3) no contract or delegation agreement covers the topic that is the subject of this rulemaking; and 4) the proposed rulemaking is authorized by specific sections of THSC, Chapter 382 (also

EXHIBIT 1

known as the Texas Clean Air Act or TCAA), which is cited in the (statutory authority) section.

The specific intent of the adopted rulemaking is to amend Chapter 106 to include the significant levels for PM, PM_{10}, and $PM_{2.5}$. The preamble to this rulemaking clarifies how precursors and condensable emissions are addressed, that EPA has made no changes to the BACT analysis process for $PM_{2.5}$, and provides a basis for regulation of $PM_{2.5}$ emissions when the use of PM_{10} as a surrogate for $PM_{2.5}$ is no longer applicable.

Takings Impact Assessment

The commission evaluated the adopted rule and performed an analysis of whether the rule constitutes a taking under Texas Government Code, Chapter 2007. The specific purpose of the rulemaking is to facilitate implementation of new federal regulations under the NSR program. The adopted amendment would substantially advance this stated purpose by including the significant levels for PM, PM_{10}, and $PM_{2.5}$ in Chapter 106. The commission's analysis indicates that Texas Government Code, Chapter 2007 does not apply to this adopted rule because this is an action that is reasonably taken to fulfill an obligation mandated by federal law, which is exempt under Texas Government Code, §2007.003(b)(4). Specifically, EPA has promulgated new NSR regulations for $PM_{2.5}$ in accordance with 40 Code of Federal Regulations (CFR) §§52.21, 52.24, 51.160 - 51.164, 51.165, 51.165(b), and 51.166, and 40 CFR Part 51, Appendix S. TCEQ, as the administrator of the NSR program for Texas, is tasked with implementing the new federal regulations in accordance with 40 CFR §51.166 and FCAA, §107(d)(1)(A)(ii) or (iii).

Nevertheless, the commission further evaluated the adopted rule and performed an assessment of whether the rule constitutes a takings under Texas Government Code, Chapter 2007. The specific purpose of the adopted rule is to facilitate implementation of new federal regulations under the NSR program. The adopted rule would substantially advance this stated purpose by including the significant levels for PM, PM_{10}, and $PM_{2.5}$ in Chapter 106.

Promulgation and enforcement of the adopted rule would be neither a statutory nor a constitutional taking of private real property. Specifically, the subject proposed regulations do not affect a landowner's rights in private real property because this rulemaking does not burden (constitutionally), nor restrict or limit the owner's right to property and reduce its value by 25% or more beyond that which would otherwise exist in the absence of the regulations. In other words, the rule does not affect private property in a manner that restricts or limits an owner's right to the property that would otherwise exist in the absence of a governmental action. Consequently, this rulemaking action does not meet the definition of a takings under Texas Government Code, §2007.002(5).

Consistency with the Coastal Management Program

The commission determined that this rulemaking action relates to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§33.201 *et seq.),* and commission rules in 30 TAC Chapter 281, Subchapter B, concerning Consistency with the Texas Coastal Management Program. As required by §281.45(a)(3) and 31 TAC §505.11(b)(2), relating to Actions and Rules Subject to the Coastal Management Program, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission reviewed this action for consistency with the CMP goals and policies in accordance with the rules of the Coastal Coordination Council and determined that the action is consistent with the applicable CMP goals and policies.

The CMP goal applicable to this adopted rulemaking action is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (31 TAC §501.12(l)). The adopted rule will benefit the environment by ensuring the NSR program meets applicable federal requirements, and is adequately enforceable so that air quality is protected. The CMP policy applicable to this rulemaking action is the policy that commission rules comply with federal regulations in 40 CFR, to protect and enhance air quality in the coastal areas (31 TAC §501.32). Therefore, in accordance with 31 TAC §505.22(e), the commission affirms that this rulemaking action is consistent with CMP goals and policies.

The commission invited public comment regarding the consistency with the coastal management program during the public comment period. No comments were received on the Coastal Management Program.

Effect on Sites Subject to the Federal Operating Permits Program

There should be no significant effect on facilities subject to the Federal Operating Permits Program since APD is currently conducting reviews of sources subject to PSD and minor NSR that meet federal definitions and requirements. Permit holders may need to conduct an evaluation and determine if a revision to a Federal Operating Permit is needed to update the applicable requirements.

Public Comment

The commission held a public hearing on December 13, 2010. The comment period closed on December 20, 2010. The commission received comments from Baker Botts L.L.P. on behalf of the Texas Industry Project (TIP), an individual, and EPA. The individual and the EPA were in support of the rule project. TIP was opposed to the rule project.

Response to Comments

An individual supports this rule project and hopes TCEQ implements the new more stringent $PM_{2.5}$ and does not take the allowed SIP of 10 micrometers or less. In addition, the individual would like to see some suggested guidance in this proposed rule on formation of $PM_{2.5}$ from photochemical interaction.

The commission did not make any changes to the rule in response to this comment. The TCEQ will develop guidance to address photochemical modeling at the appropriate time when necessary.

EPA appreciates the State's proposed revisions but reminds the TCEQ that any source subject to the Greenhouse Gas permitting requirements cannot rely upon a PBR but must perform the Major NSR applicability determination.

The commission did not make any changes based on this comment. The changes adopted under this rulemaking do not address applicability to greenhouse gas permitting, but are made to facilitate implementation of $PM_{2.5}$ requirements under TCEQ rules and Texas' SIP.

TIP opposes the proposed amendments at this time since EPA has not identified a test method for measuring different types of PM and condensable $PM_{2.5}$. They also state at this time there are no federally approved test methods for measuring $PM_{2.5}$. While

EXHIBIT 1

EPA has proposed changes to existing PM test methods in order to more accurately measure $PM_{2.5}$, EPA recognizes there are technical issues that need to be resolved. TIP states that rule comments reflect a strong desire for EPA to consider other $PM_{2.5}$ measurement approaches. There are concerns with sources being required to perform an emission test to demonstrate compliance with a $PM_{2.5}$ PSD permit emission limit when there are no federally approved methods, and significant technical issues remain associated with the test methods for measuring $PM_{2.5}$. TCEQ should allow regulated entities to use test methods that are shown to be equivalent rather than limiting sources to only the method or methods promulgated by EPA. EPA issued additional $PM_{2.5}$ rules on October 20, 2010, establishing significant impact levels and de minimis monitoring levels for $PM_{2.5}$. TIP is concerned that this proposal does not address the concepts established in that rulemaking.

The commission did not make any changes to the rule in response to these comments. EPA proposed rulemaking for repealing the Grandfathered Provisions, Implementation of the NSR Program for $PM_{2.5}$; Notice of Proposed Rulemaking to repeal Grandfathering Provision and the end to the PM_{10} Surrogate policy prior to the May 16, 2011 deadline, which has not been finalized. In efforts to ensure the TCEQ meets regulatory requirements of the FCAA, the commission is adopting amendments to add specific definitions related to $PM_{2.5}$ regulation and to address known requirements for implementation.

Subsequent to receipt of TIP's comments, EPA published the final rule on the Methods for Measurement of Filterable PM_{10} and $PM_{2.5}$ and Measurement of Condensable PM Emissions (75 *Federal Register* 80118, December 21, 2010).

This adoption addresses known requirements to date in order to meet the May 16, 2011 deadline for implementation of the $PM_{2.5}$ requirements and the end of the PM_{10} Surrogate policy. TCEQ will consider any future rulemaking as necessary to address future state or federal regulatory requirements.

Statutory Authority

The amendment is adopted under Texas Water Code (TWC), §5.102, concerning General Powers, that provides the commission with the general powers to carry out its duties under the TWC; §5.103, concerning Rules, and §5.105, concerning General Policy, which authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendment is also adopted under THSC, §382.002, concerning Policy and Purpose, which establishes the commission purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.003, concerning Definitions; §382.011, concerning General Powers and Duties, which authorizes the commission to control the quality of the state's air; §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air; §382.051, concerning Permitting Authority of Commission; Rules, which authorizes the commission to issue a permit by rule for types of facilities that will not significantly contribute air contaminants to the atmosphere; §382.0513, concerning Permit Conditions, which authorizes the commission to establish and enforce permit conditions; and §382.0514, concerning Sampling, Monitoring, and Certification.

The adopted amendment implements THSC, §§382.002, 382.003, 382.011, 382.012, 382.051, 382.0513, and 382.0514.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

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Robert Martinez
Director, Environmental Law Division
Texas Commission on Environmental Quality
Effective date: May 15, 2011
Proposal publication date: November 19, 2010
For further information, please call: (512) 239-0779

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CHAPTER 117. CONTROL OF AIR POLLUTION FROM NITROGEN COMPOUNDS
SUBCHAPTER D. COMBUSTION CONTROL AT MINOR SOURCES IN OZONE NONATTAINMENT AREAS
DIVISION 2. DALLAS-FORT WORTH EIGHT-HOUR OZONE NONATTAINMENT AREA MINOR SOURCES

30 TAC §117.2110

The Texas Commission on Environmental Quality (TCEQ or commission) adopts the amendment to §117.2110.

Section 117.2110 is adopted *without changes* to the proposed text as published in the November 19, 2010, issue of the *Texas Register* (35 TexReg 10162) and the text will not be republished.

The amendment will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the state implementation plan (SIP).

Background and Summary of the Factual Basis for the Adopted Rule

On April 27, 2010, Ameresco of Texas (petitioner) submitted a petition for rulemaking (Project Number 2010-026-PET-NR) requesting an amendment to Chapter 117, Subchapter D, Division 2, §117.2110 for the Dallas-Fort Worth (DFW) 1997 eight-hour ozone nonattainment area. The commission approved the petition for rulemaking on June 16, 2010, and issued an order on June 22, 2010, directing the executive director to examine the issues in the petition and to initiate rulemaking. Currently, §117.2110 limits nitrogen oxides (NO_x) emissions from stationary gas-fired, lean-burn engines installed, modified, reconstructed, or relocated on or after June 1, 2007, to 0.60 grams per horsepower-hour (g/hp-hr) if fired on landfill gas and 0.50 g/hp-hr for all other lean-burn engines. The adopted change will expand the emission specification for lean-burn engines fired on landfill gas to include lean-burn engines fired on biogas at minor sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area.

Landfill gas and other biogas are produced from anaerobic digestion or decomposition of organic matter and have similar fuel and combustion characteristics. Both landfill gas and other biogas can contain contaminants such as sulfur, chlorine, and sil-

EXHIBIT 1

icon, which are present in other gaseous fuels. Consequently, engines fired on landfill gas and other biogas can have technological feasibility issues with regard to the installation of a NO_x control catalyst because these contaminants can result in catalyst failure or deactivation in hours or days. The technological feasibility issues with regard to the installation of a NO_x control catalyst is the basis for the 0.60 g/hp-hr emission standard in the current rule and the justification for the adopted expansion of the existing emission specification to include lean-burn engines fired on biogas at minor sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area.

Demonstrating Noninterference under Federal Clean Air Act (FCAA), §110(l)

The commission provides the following information to demonstrate why the adopted change to expand the emission specification in §117.2110(a)(1)(B)(ii)(I) will not negatively impact the status of the state's attainment with the 1997 eight-hour ozone National Ambient Air Quality Standard (NAAQS), will not interfere with control measures, and will not prevent reasonable further progress toward attainment of the ozone NAAQS. The commission acknowledges that the DFW area failed to attain the 1997 eight-hour ozone NAAQS by the June 15, 2010, attainment deadline based on monitoring data; however, the adopted rule change will not adversely affect the ability of the DFW area to attain the 1997 eight-hour ozone NAAQS for the reasons discussed in this preamble.

The requirement for reasonable notice and public hearing was satisfied through a public hearing scheduled for December 14, 2010, and the public comment period, held November 19, 2010, to December 20, 2010. The purpose of the hearing was to accept written and oral comments on the proposed rulemaking. A written comment was submitted by the EPA. The EPA stated their agreement with the commission's §110(l) determination that the proposed rulemaking will not interfere with attainment or maintenance of the 1997 eight-hour ozone NAAQS in the DFW area.

On May 23, 2007, as part of the DFW attainment demonstration, the commission adopted a new Chapter 117, Subchapter D, Division 2 with new emission control requirements for minor industrial, commercial, or institutional sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area. Subchapter D, Division 2 requires owners or operators of minor sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area to reduce NO_x emissions from affected stationary internal combustion engines. A minor source of NO_x in the DFW 1997 eight-hour ozone nonattainment area is any stationary source, or group of sources located within a contiguous area and under common control that emits or has the potential to emit less than 50 tons per year of NO_x.

One source category newly regulated under Chapter 117 during the 2007 rulemaking was lean-burn engines at minor sources. The current applicable NO_x emission specification in §117.2110(a)(1)(B)(ii)(II) for gas-fired, lean-burn engines using gaseous fuels other than landfill gas that are installed, modified, reconstructed, or relocated on or after June 1, 2007, is 0.50 g/hp-hr. During the 2007 rulemaking, no landfill gas-fired engines were identified in the emissions inventory in the counties impacted by the proposed rule; however, the emission specification of 0.60 g/hp-hr for gas-fired engines fired on landfill gas established by §117.2110(a)(1)(B)(ii)(I) is consistent with the emission specification for this category of engines in the Houston-Galveston-Brazoria 1997 eight-hour ozone nonattainment area.

In the 2007 Chapter 117 rulemaking for the DFW 1997 eight-hour ozone attainment demonstration, no gas-fired engines fired on biogas or other non-landfill gaseous fuels were relied upon for creditable reductions for the SIP. Therefore, if the petitioner's proposed change is adopted, allowing the slightly higher emission specification of 0.60 g/hp-hr on gas-fired engines fired on other biogas fuels would not result in a loss of any SIP creditable reductions for the DFW 1997 eight-hour ozone nonattainment area.

The adopted change is limited to a narrow category of stationary gas-fired engines with NO_x controls that were not relied upon in the DFW 1997 eight-hour ozone attainment demonstration adopted in 2007, and the resulting change in future NO_x emissions is negligible. Furthermore, if the rulemaking is not adopted and the petitioner is not able to comply with the 0.50 g/hp-hr emission limit or purchase credits to offset the surplus emissions, the petitioner may be forced to abandon the project. This outcome could actually result in a net NO_x emissions increase that is more than the 0.02 tons per day increase anticipated if the rule is adopted. If the company is forced to send the emission stream to a flare for destruction rather than use the stream as a fuel source in the engines, the total uncontrolled NO_x emissions could exceed that of the controlled emissions under the proposed emission limit, because flares are exempt from NO_x emission limits under Chapter 117. Based on these factors, the commission has determined that the adopted rule change will not negatively impact the status of the state's attainment demonstration for the 1997 eight-hour ozone NAAQS, will not interfere with control measures, and will not prevent reasonable further progress toward attainment of the ozone NAAQS.

Section Discussion

Section 117.2110, Emission Specifications for Eight-Hour Attainment Demonstration

The commission adopts the amendment to §117.2110(a)(1)(B)(ii)(I) to expand the emission specification for lean-burn engines fired on landfill gas to include lean-burn engines fired on biogas at minor sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area. The adopted rule revision will require owners or operators of stationary gas-fired, lean-burn internal combustion engines fired on biogas fuels other than landfill gas that are installed, modified, reconstructed, or relocated on or after June 1, 2007, to comply with a NO_x emission limit of 0.60 g/hp-hr.

In addition to the adopted rule revision, the commission adopts non-substantive formatting changes to conform with current Texas Register format requirements. These non-substantive changes are not intended to alter the existing rule requirements in any way and are not specifically discussed in this preamble.

Final Regulatory Impact Analysis Determination

The commission reviewed the adopted rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the adopted rule does not meet the definition of a "major environmental rule." Texas Government Code, §2001.0225 states that a "major environmental rule" is, "a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state." Furthermore, while the adopted rulemaking does not constitute a major environmental rule, even if it did, a regula-

EXHIBIT 1

tory impact analysis would not be required because the adopted rulemaking does not meet any of the four applicability criteria for requiring a regulatory impact analysis for a major environmental rule. Texas Government Code, §2001.0225 applies only to a major environmental rule which, "(1) exceeds a standard set by federal law, unless the rule is specifically required by state law; (2) exceeds an express requirement of state law, unless the rule is specifically required by federal law; (3) exceeds a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or (4) adopts a rule solely under the general powers of the agency instead of under a specific state law."

The adopted rulemaking implements requirements of the FCAA. Under 42 United States Code (USC), §7410, each state is required to adopt and implement a SIP containing adequate provisions to implement, attain, maintain, and enforce the NAAQS within the state. While 42 USC, §7410 generally does not require specific programs, methods, or reductions in order to meet the standard, a SIP must include "enforceable emission limitations and other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance as may be necessary or appropriate to meet the applicable requirements of this chapter," (meaning Chapter 85, Air Pollution Prevention and Control, otherwise known as the FCAA). The provisions of the FCAA recognize that states are in the best position to determine what programs and controls are necessary or appropriate in order to meet the NAAQS. This flexibility allows states, affected industry, and the public, to collaborate on the best methods for attaining the NAAQS for the specific regions in the state. Even though the FCAA allows states to develop their own programs, this flexibility does not relieve a state from developing a program that meets the requirements of 42 USC, §7410. States are not free to ignore the requirements of 42 USC, §7410, and must develop programs and control measures to assure that their SIP provides for implementation, attainment, maintenance, and enforcement of the NAAQS within the state.

The specific intent of the adopted rulemaking is to provide fair and consistent application of SIP rules in the DFW 1997 eight-hour ozone nonattainment area. The current applicable NO_x emission specification in §117.2110(a)(1)(B)(ii)(II) for gas-fired, lean-burn engines using gaseous fuels other than landfill gas that are installed, modified, reconstructed, or relocated on or after June 1, 2007, is 0.50 g/hp-hr. The current applicable NO_x emission specification in §117.2110(a)(1)(B)(ii)(I) for gas-fired engines fired on landfill gas is 0.60 g/hp-hr. Landfill gas and other biogas are produced from anaerobic digestion or decomposition of organic matter and have similar fuel and combustion characteristics. Both landfill gas and other biogas can contain contaminants such as sulfur, chlorine, and silicon. Consequently, engines fired on landfill gas and other biogas can have technological feasibility issues with regard to the installation of a NO_x control catalyst, because these contaminants can result in catalyst failure or deactivation in hours or days. The technological feasibility issues with regard to the installation of a NO_x control catalyst is the basis for the 0.60 g/hp-hr emission standard in the current §117.2110(a)(1)(B)(ii)(I) and the justification for the adopted expansion of the existing emission specification to include lean-burn engines fired on biogas at minor sources NO_x in the DFW 1997 eight-hour ozone nonattainment area. To further the specific intent of providing fair and consistent application of SIP rules in the DFW 1997 eight-hour ozone nonattainment area, the adopted rule will expand the current §117.2110(a)(1)(B)(ii)(I) to include biogas other than landfill gas.

The adopted rulemaking does not constitute a major environmental rule under Texas Government Code, §2001.0225(g)(3) because: 1) the specific intent of the adopted rule is not to protect the environment or reduce risks to human health from environmental exposure, but rather to provide fair and consistent application of SIP rules in the DFW eight-hour ozone nonattainment area by providing a specific expansion of §117.2110(a)(1)(B)(ii)(I) to apply to biogas other than landfill gas; and 2) the adopted rulemaking will not adversely affect in a material way the economy, a sector of the economy, productivity, competition, or jobs, nor will the adopted rule adversely affect in a material way the environment or the public health and safety of the state or a sector of the state. Because the adopted rulemaking is not a major environmental rule, it is not subject to a regulatory impact analysis under Texas Government Code, §2001.0225.

While the adopted rulemaking does not constitute a major environmental rule, even if it did it would not be subject to a regulatory impact assessment under Texas Government Code, §2001.0225. The requirement to provide a fiscal analysis of regulations in the Texas Government Code was amended by Senate Bill (SB) 633 during the 75th Legislature, 1997. The intent of SB 633 was to require agencies to conduct a regulatory impact analysis of extraordinary rules. These are identified in the statutory language as major environmental rules that will have a material adverse impact and will exceed a requirement of state law, federal law, or a delegated federal program, or are adopted solely under the general powers of the agency. With the understanding that this requirement would seldom apply, the commission provided a cost estimate for SB 633 that concluded: "based on an assessment of rules adopted by the agency in the past, it is not anticipated that the bill will have significant fiscal implications for the agency due to its limited application." The commission also noted that the number of rules that would require assessment under the provisions of the bill was not large. This conclusion was based, in part, on the criteria set forth in the bill that exempted rules from the full analysis unless the rule was a major environmental rule that exceeds a federal law.

The FCAA does not always require specific programs, methods, or reductions in order to meet the NAAQS; thus, states must develop programs for each nonattainment area to help ensure that those areas will meet the attainment deadlines. Because of the ongoing need to address nonattainment issues, and to meet the requirements of 42 USC, §7410, the commission routinely proposes and adopts SIP rules. The legislature is presumed to understand this federal scheme. If each rule adopted for inclusion in the SIP was considered to be a major environmental rule that exceeds federal law, then every SIP rule would require the full regulatory impact analysis contemplated by SB 633. This conclusion is inconsistent with the conclusions reached by the commission in its cost estimate and by the Legislative Budget Board (LBB) in its fiscal notes. Since the legislature is presumed to understand the fiscal impacts of the bills it passes and that presumption is based on information provided by state agencies and the LBB, the commission believes that the intent of SB 633 was only to require the full regulatory impact analysis for rules that are extraordinary in nature. While the SIP rules have a broad impact, that impact is no greater than is necessary or appropriate to meet the requirements of the FCAA. For these reasons,

EXHIBIT 1

rules adopted for inclusion in the SIP fall under the exception in Texas Government Code, §2001.0225(a), because they are required by federal law.

The commission has consistently applied this construction to its rules since this statute was enacted in 1997. Since that time, the legislature has revised the Texas Government Code but left this provision substantially unamended. It is presumed that, "when an agency interpretation is in effect at the time the legislature amends the laws without making substantial change in the statute, the legislature is deemed to have accepted the agency's interpretation." Central Power & Light Co. v. Sharp, 919 S.W.2d 485, 489 (Tex. App. Austin 1995), writ denied with per curiam opinion respecting another issue, 960 S.W.2d 617 (Tex. 1997); Bullock v. Marathon Oil Co., 798 S.W.2d 353, 357 (Tex. App. Austin 1990, no writ). Cf. Humble Oil & Refining Co. v. Calvert, 414 S.W.2d 172 (Tex. 1967); Dudney v. State Farm Mut. Auto Ins. Co., 9 S.W.3d 884, 893 (Tex. App. Austin 2000); Southwestern Life Ins. Co. v. Montemayor, 24 S.W.3d 581 (Tex. App. Austin 2000, pet. denied); and Coastal Indust. Water Auth. v. Trinity Portland Cement Div., 563 S.W.2d 916 (Tex. 1978).

The commission's interpretation of the regulatory impact analysis requirements is also supported by a change made to the Texas Administrative Procedure Act (APA) by the legislature in 1999. In an attempt to limit the number of rule challenges based upon APA requirements, the legislature clarified that state agencies are required to meet these sections of the APA against the standard of "substantial compliance" (Texas Government Code, §2001.035). The legislature specifically identified Texas Government Code, §2001.0225 as falling under this standard. The commission has substantially complied with the requirements of Texas Government Code, §2001.0225.

Regardless of whether the adopted rulemaking constitutes a major environmental rule under Texas Government Code, §2001.0225(g)(3), a regulatory impact analysis is not required because this rule is part of the commission's SIP for making progress toward the attainment and maintenance of the eight-hour ozone NAAQS in the DFW nonattainment area. Therefore, the adopted rule does not exceed a standard set by federal law or exceed an express requirement of state law, since the rule is part of an overall regulatory scheme designed to meet, not exceed the relevant standard set by federal law - the NAAQS. The commission is charged with protecting air quality within the state and to design and submit a plan to achieve attainment and maintenance of the federally mandated NAAQS. The Third District Court of Appeals upheld this interpretation in Brazoria County v. Texas Comm'n on Envtl. Quality, 128 S.W. 3d 728 (Tex. App. - Austin 2004, no writ). In addition, no contract or delegation agreement covers the topic that is the subject of this rulemaking. Finally, this rulemaking was not developed solely under the general powers of the agency but is authorized by specific sections of Texas Health and Safety Code (THSC), Chapter 382 (also known as the Texas Clean Air Act), and the Texas Water Code (TWC), which are cited in the STATUTORY AUTHORITY section of this preamble, including THSC, §§382.011, 382.012, and 382.017.

This rulemaking is not subject to the regulatory analysis provisions of Texas Government Code, §2001.0225(b), for the following reasons. The adopted rulemaking is not a major environmental law because: 1) the specific intent of the adopted rule is not to protect the environment or reduce risks to human health from environmental exposure, but rather to provide fair and consistent application of SIP rules in the DFW 1997 eight-hour ozone nonattainment area; and 2) the adopted rulemaking will not adversely affect in a material way the economy, a sector of the economy, productivity, competition, or jobs, nor will it adversely affect in a material way the environment, or the public health and safety of the state or a sector of the state. Furthermore, even if the adopted rulemaking was a major environmental rule, it does not meet any of the four applicability criteria listed in Texas Government Code, §2001.0225 because: 1) the adopted rulemaking is part of the DFW SIP, and as such is designed to meet, not exceed the relevant standard set by federal law; 2) no contract or delegation agreement covers the topic that is the subject of this rulemaking; and 3) the adopted rulemaking is authorized by specific sections of THSC, Chapter 382, and the TWC, which are cited in the STATUTORY AUTHORITY section of this preamble.

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. No comments were received on the draft regulatory impact analysis determination.

Takings Impact Assessment

The commission evaluated the adopted rule and performed an analysis of whether the adopted rule constitutes a taking under Texas Government Code, Chapter 2007. The commission's assessment indicates Texas Government Code, Chapter 2007 does not apply because this rulemaking provides for fair and consistent application of SIP rules in the DFW 1997 eight-hour ozone nonattainment area by expanding the current §117.2110(a)(1)(B)(ii)(I) NO_x emission specification to include biogas other than landfill gas.

Under Texas Government Code, §2007.002(5), taking means: "(A) a governmental action that affects private real property, in whole or in part or temporarily or permanently, in a manner that requires the governmental entity to compensate the private real property owner as provided by the Fifth and Fourteenth Amendments to the United States Constitution or Section 17 or 19, Article I, Texas Constitution; or (B) a governmental action that: (i) affects an owner's private real property that is the subject of the governmental action, in whole or in part or temporarily or permanently, in a manner that restricts or limits the owner's right to the property that would otherwise exist in the absence of the governmental action; and (ii) is the producing cause of a reduction of at least 25% in the market value of the affected private real property, determined by comparing the market value of the property as if the governmental action is not in effect and the market value of the property determined as if the governmental action is in effect."

The specific purpose of the adopted rulemaking is to provide fair and consistent application of SIP rules in the DFW 1997 eight-hour ozone nonattainment area. The current applicable NO_x emission specification in §117.2110(a)(1)(B)(ii)(II) for gas-fired, lean-burn engines using gaseous fuels other than landfill gas that are installed, modified, reconstructed, or relocated on or after June 1, 2007, is 0.50 g/hp-hr. The current applicable NO_x emission specification in §117.2110(a)(1)(B)(ii)(I) for gas-fired engines fired on landfill gas is 0.60 g/hp-hr. Landfill gas and other biogas are produced from anaerobic digestion or decomposition of organic matter and have similar fuel and combustion characteristics. Both landfill gas and other biogas can contain contaminants such as sulfur, chlorine, and silicon. Consequently, engines fired on landfill gas and other biogas can have technological feasibility issues with regard to the installation of a NO_x control catalyst because these contaminants can

EXHIBIT 1

result in catalyst failure or deactivation in hours or days. The technological feasibility issues with regard to the installation of a NO_x control catalyst is the basis for the 0.60 g/hp-hr emission standard in the current §117.2110(a)(1)(B)(ii)(I) and the justification for the adopted expansion of the existing emission specification to include lean-burn engines fired on biogas at minor sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area. To further the specific intent of providing fair and consistent application of SIP rules in the DFW 1997 eight-hour ozone nonattainment area, the adopted rule will broaden the current §117.2110(a)(1)(B)(ii)(I) to biogas other than landfill gas.

Promulgation and enforcement of the adopted rule would be neither a statutory nor a constitutional taking of private real property. Because the adopted rule promulgates an exemption, the rule is less burdensome, restrictive, or limiting of rights to private real property than the existing rule. Furthermore, the adopted rule will benefit the public by providing fair and consistent application of SIP rules in the DFW 1997 eight-hour ozone nonattainment area. The adopted rule does not affect a landowner's rights in private real property because this rulemaking does not burden, restrict, or limit the owner's right to property, nor does it reduce the value of any private real property by 25% or more beyond that which would otherwise exist in the absence of the regulations. In other words, this rule simply expands the existing exemption in §117.2110(a)(1)(B)(ii)(I) to include sources that have technological feasibility issues similar to those of the sources covered by the current exemption. Therefore, the rule will not constitute a taking under Texas Government Code, Chapter 2007.

Consistency with the Coastal Management Program

The commission invited public comment regarding the consistency with the coastal management program (CMP) during the public comment period. No comments were received concerning the Texas CMP.

Effect on Sites Subject to the Federal Operating Permits Program

Chapter 117 is an applicable requirement under 30 TAC Chapter 122, Federal Operating Permits Program. Owners or operators subject to the federal operating permits program that elect to comply with the emission specification in §117.2110(a)(1)(B)(ii)(I) may need to revise their operating permit.

Public Comment

A public hearing was scheduled December 14, 2010, at 2:00 p.m., at the Texas Commission on Environmental Quality Region 4 office in Fort Worth, Texas. The hearing was not officially opened, because no one requested to present oral testimony. The comment period closed on December 20, 2010. A written comment was received from the EPA.

Response to Comments

The EPA stated its understanding that the proposed revision would expand the NO_x emission specification for lean-burn engines fired on landfill gas to include lean-burn engines fired on biogas at minor sources in the DFW 1997 eight-hour ozone nonattainment area, and that the revision would allow a stationary diesel engine to be fired on biogas. The EPA also commented that although TCEQ has projected the potential for a small increase in NO_x emissions from engines firing biogas resulting from the rule change, because a larger amount of NO_x emissions could result from the likely alternative of sending the gas to a flare, the rulemaking did not appear to conflict with FCAA, §110(l). The EPA also commented that it agreed with the commission's determination that the proposed rulemaking will not interfere with attainment or maintenance of the 1997 eight-hour ozone NAAQS in the DFW area and commented that the proposed change appeared to be an appropriate revision to the SIP given the small amount of emissions change and the beneficial use of the biogas. In addition, the EPA requested the commission confirm the EPA's understanding of the proposed amendment to §117.2110 and requested that emissions from engines fired on biogas be accounted for in future SIP revisions.

The commission appreciates the comment. The EPA's understanding of the amendment to §117.2110 is partially correct. The amendment to §117.2110 in this rulemaking only applies to lean-burn engines fired on landfill gas and lean-burn engines fired on other biogas at minor sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area; the amendment does not apply to stationary diesel engines. The EPA is correct in its understanding that the change is limited to a narrow category of stationary gas-fired engines with NO_x controls that were not relied upon in the DFW 1997 eight-hour ozone attainment demonstration adopted in 2007, and the resulting change in future NO_x emissions is negligible. The commission agrees that the use of biogas as fuel is beneficial and preferential to sending the biogas to a flare for destruction. Lastly, all emissions from lean-burn engines fired on biogas will be accounted for in future SIP revisions. No change has been made to the rule based on this comment.

STATUTORY AUTHORITY

The amendment is adopted under the authority of Texas Government Code, §2001.021, Petition for the Adoption of Rules, which authorizes an interested person to petition a state agency for the adoption of a rule; Texas Water Code (TWC), §5.102, General Powers, §5.103, Rules, and §5.105, General Policy (these provisions authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC); Texas Health and Safety Code (THSC), Texas Clean Air Act (TCAA), §382.017, Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the TCAA; THSC, §382.002, Policy and Purpose, which establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; THSC, §382.011, General Powers and Duties, which authorizes the commission to control the quality of the state's air; and THSC, TCAA, §382.012, State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air. The amendment is also adopted under THSC, §382.016, Monitoring Requirements; Examination of Records, which authorizes the commission to prescribe requirements for owners or operators of sources to make and maintain records of emissions measurements; THSC, §382.021, Sampling Methods and Procedures, which authorizes the commission to prescribe sampling methods and procedures; and THSC, §382.051, Permitting Authority of Commission; Rules, which authorizes the commission to adopt rules as necessary to comply with changes in federal law or regulations applicable to permits under THSC, Chapter 382. The amendment is also adopted under Federal Clean Air Act (FCAA), 42 United States Code (USC), §§7401, *et seq.,* which requires states to submit state implementation plan revisions that specify the manner in which the National Ambient Air Quality Standard will be achieved and maintained within each air quality control region of the state.

EXHIBIT 1

The adopted amendment implements TWC, §5.103 and §5.105; THSC, §§382.002, 382.011, 382.012, 382.016, 382.017, 382.021, 382.051; and FCAA, 42 USC, §§7401 et seq.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

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Robert Martinez
Director, Environmental Law Division
Texas Commission on Environmental Quality
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CHAPTER 290. PUBLIC DRINKING WATER

The Texas Commission on Environmental Quality (TCEQ, agency, or commission) adopts the amendments to §§290.38, 290.39, 290.41, 290.42, 290.46, 290.47, 290.111 - 290.115, 290.119, 290.121, 290.122, 290.271, and 290.272, and the repeal of §290.117. The commission simultaneously adopts new §290.117.

Sections 290.39, 290.41, 290.46, 290.112, 290.113, 290.115, 290.119, 290.271, and 290.272 are adopted *with changes* to the proposed text as published in the December 10, 2010, issue of the *Texas Register* (35 TexReg 10815). Sections 290.38, 290.42, 290.47, 290.111, 290.114, 290.117, 290.121, and 290.122 are adopted *without changes* to the proposed text and will not be republished.

Background and Summary of the Factual Basis for the Adopted Rules

The primary purpose of the adopted rulemaking is to implement federal regulations pertaining to the safety of drinking water from groundwater and surface water sources. Federal rules controlling levels of the metals lead and copper in drinking water have been in place since 1991. Lead and copper can leach into drinking water from pipes or solder under corrosive conditions. The federal rules require public water systems to monitor for lead and copper; monitor for water quality parameters related to corrosivity; perform corrosion control studies; install optimum corrosion control treatment; meet lead and copper action levels; and, when action levels are exceeded, educate the public. The United States Environmental Protection Agency (EPA) adopted the National Primary Drinking Water Regulations for Lead and Copper: Short-Term Regulatory Revisions and Clarifications (LCSTR) on October 10, 2007. Under 40 Code of Federal Regulations (40 CFR) §142.10, the commission must adopt rules at least as stringent as the federal rules to maintain primary enforcement authority (primacy) over public water systems in Texas. This rulemaking adopts the federal rules for lead and copper and makes minor changes for consistency with the adopted federal rules to retain primacy for the Safe Drinking Water Act and its amendments (SDWA). In addition, the commission adopts the rule language for lead and copper to reorganize the state rules to match the organizational structure for other chemicals in drinking water. The intent of this reorganization is to assist the regulated community by making the rules easier to use. No part of the adopted rulemaking differs from the federal requirements or existing Texas requirements in stringency.

This rulemaking also adopts minor changes to Chapter 290 for consistency with the federal Long Term 2 Enhanced Surface Water Treatment Rule (LT2), Stage 2 Disinfectants and Disinfection Byproducts Rule (DBP2), and Ground Water Rule (GWR). Rule Project Number 2006-045-290-PR incorporated the major requirements of the federal LT2, DBP2, and GWR on December 19, 2007. In the time since that adoption, as part of the EPA's primacy review, the EPA identified some rule elements inadvertently omitted from that rulemaking. These omissions have been corrected in this adopted rulemaking. These changes, though important in order to meet primacy, are relatively minor in terms of extent and scope.

Section by Section Discussion

In addition to implementation of the federal laws discussed previously, the commission adopts administrative changes throughout the adopted rulemaking to reflect the agency's current practices and to conform with *Texas Register* and agency guidelines. These changes include updating cross-references and correcting typographical, spelling, and grammatical errors.

Subchapter D: Rules and Regulations for Public Water Systems

The commission adopts the amendment to §290.38, Definitions. The commission amends §290.38(4) and (11) to correct references to "certified" laboratories. On July 1, 2005, the commission published rules under 30 TAC §25.4(f) changing the requirements for environmental laboratories, a classification that includes laboratories that perform sample analyses required under the SDWA. The rulemaking eliminated the historical certification program, and replaced it with an accreditation program consistent with the environmental laboratory testing program known as the National Environmental Laboratory Accreditation Conference standards. Specifically, the rule stated that after the third anniversary of the publishing in the *Texas Register,* an environmental testing laboratory that provides analytical data used for a commission decision relating to the SDWA would no longer be certified, but must be accredited. The third anniversary of publishing was June 30, 2008. Therefore, after June 30, 2008, laboratories ceased to be "certified" by the agency, and are now "accredited" according to 30 TAC §25.4(f). The commission amends §290.38(6) to update the reference to the American Society for Testing and Materials standards. The commission amends §290.38(40) to ensure consistency with normal syntax standards by adding a closing parenthesis.

The commission adopts §290.39, General Provisions. The commission amends §290.39(b) to remove the word "a" in order to ensure consistency with normal English usage standards. The commission amends §290.39(j) to incorporate requirements contained in the federal LCSTR. Specifically, the commission amends §290.39(j) to contain requirements of the federal rules under 40 CFR §§141.82(h), 141.83(b)(6), and 141.86(d)(4)(vii) and (g)(4)(iii) that systems seek approval from the TCEQ for any change in treatment that may affect the corrosivity of the water. The commission amends §290.39(j)(1)(E) and (F) to move the word "and," together with its semicolon, to the correct location in the sequential list of requirements. The commission adopts §290.39(j)(1)(G) to include the requirements of the new federal LCSTR under 40 CFR §141.90(a)(3) giving examples of changes that the TCEQ must approve before use, consistent with requirements of repealed §290.117(g)(2)(E). The commission had proposed the addition of language in §290.39(j)(1)(G)

EXHIBIT 1

to incorporate the requirements of the new federal LCSTR under 40 CFR §141.86(g)(4)(iii) and (iv) requiring all systems to notify the TCEQ of the addition of any lead-containing or copper-containing material in writing within 60 days of becoming aware of its presence. In response to comment, the adopted rule is amended to strike the notification requirement from §290.39(j)(1)(G); the requirement for small systems to notify the TCEQ of addition of lead or copper material in their distribution system remains under adopted §290.117(c)(2)(D)(vi).

The commission adopts §290.41, Water Sources, to correct references to "certified" or "approved" laboratories in subsection (c)(3)(F)(i) and (G). After June 30, 2008, laboratories are not certified by the agency, but are instead "accredited" by the agency, consistent with existing state rule under 30 TAC §25.4(f). At adoption, an incorrect reference contained in §290.41(e)(1)(D), related to disposal of wastes from boats or any other watercraft, has been corrected.

The commission adopts §290.42, Water Treatment, to maintain consistency with the federal requirements of the LT2 and LCSTR rules. The commission amends §290.42(c)(6) to correct a cross-reference. The commission amends §290.42(d)(3) to delete the phrase "relating to Public Notice" in conformance to agency syntax standards for internal references. The commission amends §290.42(d)(15)(A) and (B) to correct references to "certified" laboratories. After June 30, 2008, laboratories are not certified by the agency, but are instead "accredited" by the agency, consistent with existing state rule under 30 TAC §25.4(f). The commission amends §290.42(e)(4)(C) and (6) to remove a space between the last word of the sentence and the period, in order to ensure consistency with normal syntax standards. The commission amends §290.42(g) and (g)(2)(B) to correct references to be consistent with agency syntax standards. The commission amends §290.42(g)(2) to allow *Giardia* removal credit of up to 3.0-log after April 1, 2012. The federal LT2 rule only discusses removal credits for *Cryptosporidium,* not for *Giardia* as seen in 40 CFR §141.719(a). The state rule under §290.42(g)(4) allows a 3.0-log removal credit for *Giardia* for bag and cartridge systems installed or replaced before April 1, 2012. Section 290.42(g)(4) describes the *Giardia* credits allowed until April 1, 2012, and §290.42(g)(2) describes the *Giardia* credits allowed after April 1, 2012. The LT2 rule did not change the *Giardia* requirements. The adopted change amends §290.42(g)(2) to continue the same level of *Giardia* credit as is currently available for bag and cartridge filters. The commission amends §290.42(g)(3) to clarify that removal credits can only be given to those systems or modules that meet the criteria in the paragraph. Before these rule changes, the rule could imply that systems would have other options to receive credits, whereas the federal LT2 rule under 40 CFR §141.719(a) provides only one method of approving credits. The commission amends §290.42(g)(3)(D)(i) and (ii) to correct the reference to meet agency syntax standards. The commission adopts §290.42(n) to reference the requirements for installation of corrosion control or source water treatment referenced in adopted §290.117(f) and (g). Adopted §290.42(n) language is consistent with repealed §290.117(j)(1). It is adopted under this section because this section contains all other treatment requirements for public water systems.

The commission adopts §290.46, Minimum Acceptable Operating Practices for Public Drinking Water Systems. The commission amends §290.46(b) to correct a reference to "certified" laboratories. After June 30, 2008, laboratories are not certified by the agency, but are instead "accredited" by the agency, consistent with existing state rule under 30 TAC §25.4(f). The commission removes the three-year turbidity record retention requirement in §290.46(f)(3)(B)(iv) and replaces it with a five-year record retention requirement in §290.46(f)(3)(C)(iv), consistent with the federal DBP2 rule under 40 CFR §141.33(a). Without these changes, the rule would be less stringent than the federal rule. Section 290.46(f)(3)(B)(v) - (ix) is re-lettered to maintain the sequence of lettering and amended to correct references to other rules to meet agency syntax standards. In response to comment, a reference to retaining source water monitoring plans for three years is added to adopted §290.46(f)(3)(B)(vi). The commission amends §290.46(f)(3)(C)(ii) to remove the word "and" in order to maintain correct numerical sequence in the list of requirements. Section 290.46(f)(3)(C)(iii) is adopted to add the word "and" in order to incorporate the new turbidity analysis record retention requirement of §290.46(f)(3)(C)(iv). The commission amends §290.46(f)(3)(C)(iv) and corrects the reference to meet agency syntax standards. The commission amends §290.46(f)(3)(E)(v) to remove the hyphen in the word "by-products" to be consistent with current federal usage standards. Section 290.46(f)(3)(F) is adopted to contain the requirement of the federal LCSTR under 40 CFR §141.80(j) and §141.91 that records related to compliance with the lead and copper requirements be maintained for 12 years, consistent with the repealed state rules for lead and copper under §290.117(m)(2). In response to comment, the proposed requirement for attaching tap water monitoring results and other sample-specific data to the monitoring plan is omitted from the adopted rule language. Section 290.46(f)(3)(F) is re-lettered as §290.46(f)(3)(G) in order to maintain the correct sequence of rule requirements. The commission amends §290.46(f)(4)(C) to replace the incorrect term "certified" with the correct term "licensed" in reference to water operators.

The commission adopts §290.47, Appendices. The commission amends the figure in §290.47(a), concerning Appendix A, Recognition as a Superior or Approved Public Water System, to replace the incorrect term "certified" with the correct term "licensed" in reference to water operators and to correct a cross-reference. The commission amends the figure in §290.47(b), concerning Appendix B, Service Agreement, to add the word "retail" to the title and text in order to specify that the agreement is for retail connections. In the first sentence of the form, the commission replaces the term "private water distribution" with the term "retail connection owner's side of the meter" to make the reference more specific, and easier for public water systems and their customers to understand. The commission replaces the word "utility" with the phrase "public water system" to correctly reflect the type of regulated entity to which the rule applies because the retail service agreement provided under §290.47(b) is applicable to all public water systems, not just to that subset of public water systems that also meet the definition of a utility. The Texas rules under Chapter 290 apply to public water systems, which are defined therein, not to utilities, which are defined in 30 TAC Chapter 291, Utility Regulations. The commission amends the figure in §290.47(c), concerning Appendix C, Sample Sanitary Control Easement Document for a Public Water Well, to correct a misspelling. Additionally, the prior sample sanitary control easement form did not include all of the items that are required by §290.41(c)(1)(F) to be included in a sanitary control easement. The fifth list item from the prior figure has been deleted and its substantive information moved to other list items, specifically the third and fourth list items. The commission amends the figure in §290.47(d), concerning Appendix D, Customer Service Inspection Certification, to correct the formatting. The check boxes were not aligned with the compliance

EXHIBIT 1

criteria. The commission amends the figure in §290.47(f), concerning Appendix F, Sample Backflow Prevention Assembly Test and Maintenance Report. The prior heading of "Reduced Pressure Principle Assembly" was separated from the "Relief Valve" column. This separation made it unclear that a Reduced Pressure Principle Assembly contains the components of a Double Check Valve Assembly (a 1st Check and a 2nd Check) and a Relief Valve. The adopted revision eliminates the line separating the heading of "Reduced Pressure Principle Assembly" from the "Relief Valve" column. Only this formatting is changed; no substantive changes are adopted.

Subchapter F: Drinking Water Standards Governing Drinking Water Quality and Reporting Requirements for Public Water Systems

The commission adopts §290.111, Surface Water Treatment. The commission amends §290.111(b) to be consistent with the federal requirements for raw surface water monitoring under the LT2 rule, to allow the state to require more than two rounds of special raw surface water monitoring. The federal rule under 40 CFR §141.711(d) requires the state to assess the watershed of a system and if a significant change has occurred that could increase *Cryptosporidium* contamination, the system must perform actions specified by the state. The federal rule lists additional source water monitoring as a potential action that the state may require. Before these rule changes, the prior wording of the state rule would not allow the commission to require additional source water monitoring. The change is adopted to assure the state rules are as stringent as the federal rules. Without these rule changes, the rule would be less stringent than the federal rule. The commission amends §290.111(b)(4)(B) to allow the state to require a second round of raw surface water sampling for systems that install new intakes after the federal deadlines. The commission moves the requirement for the first round of sampling in the deleted language from prior §290.111(b)(4)(B) to adopted §290.111(b)(4)(B)(i). The commission adopts §290.111(b)(4)(B)(ii) to include the requirement for the second round of raw surface water sampling for new surface water intakes, consistent with the federal LT2 rule requirements under 40 CFR §141.701(f)(3). The change is adopted to assure the state rules are as stringent as the federal rules. The commission amends §290.111(b)(6) to correct a reference to a "certified" laboratory to use the term "accredited," consistent with existing state rule under 30 TAC §25.4(f). The commission amends §290.111(b)(7)(A)(i) to provide the correct internal references. Before these rule changes, the rule incorrectly referenced paragraph (4)(A) and (B). The commission amends the figure in §290.111(c)(3)(B) to add the word "clarification" to footnote "b." In this context, the word "clarification" refers to a unit process required in surface water treatment that removes turbidity from the water, thus making it physically clearer. Before these rule changes, the figure in §290.111(c)(3)(B), footnote b, was essentially a copy of footnote a, which is inconsistent with the federal rule requirements of 40 CFR §141.711(a), relating to *Cryptosporidium* treatment requirements under the federal LT2 rules. The commission amends §290.111(c)(3)(B)(i) and (ii) to provide the correct internal references and ensure consistency with agency syntax standards. Before these rule changes, the rule referenced §291.114(b)(4)(A) and (B) incorrectly. To meet federal LT2 rules for early implementation sampling in 40 CFR §141.701(c) and (f), internal references are amended to §290.111(b)(4)(A) and (B), respectively. The commission amends the figure in §290.111(d)(1) to move a footnote to the appropriate location and add a definition of the abbreviation "NA". The reference to footnote 3 in the figure in §290.111(d)(1) that previously described "0.0-log" in the Membrane Filters and Cartridge Filters, *Giardia* column in §290.111(d)(1), Microbial Inactivation Requirements, now describes the heading of *"Giardia"* in the Membrane Filters and Cartridge Filters, *Giardia* column to be consistent with adopted §290.42(g)(3). Also, the abbreviation "NA" contained in this table is amended to be defined correctly as "not allowed" in the context of this table and a new footnote is adopted to define the term. The commission amends §290.111(f)(1)(A) to ensure that the requirements are correctly applied to combined filter effluent as distinct from individual filter effluent, consistent with the federal LT2 rule requirements in 40 CFR §141.551 and §141.719(b)(4)(v). The commission amends §290.111(g)(4)(B) to add a space between the reference and the hyphen in accordance with normal syntax standards. The commission amends §290.111(h)(11) to include a reference to §290.111(b)(7), relating to the LT2 requirement that public water systems provide all reports required under §290.111 to their primacy agency. The commission renumbers §290.111(h)(11) as paragraph (12).

The commission adopts §290.112, Total Organic Carbon, to be consistent with the federal DBP2 rule. In response to comment, the terms "coagulation and flocculation" are added to the terms "sedimentation and clarification" in adopted §290.112(a) in order to be equally as stringent as the federal rule. The commission amends §290.112(c)(2) and (2)(C) to establish that only source water total organic carbon monitoring can be reduced to quarterly instead of monthly, and that finished water sampling may not be reduced, consistent with the federal rule in 40 CFR §141.132(b)(iii). The commission also amends §290.112(c)(2)(C) and (e)(3)(A) to remove the hyphen in the words "by-product" and "by-products" to be consistent with current federal usage standards. Additionally, the commission amends §290.112(c)(2)(C) to correct a cross-reference.

The commission adopts §290.113, Stage 1 Disinfection Byproducts (TTHM and HAA5), to be consistent with the federal Stage 1 Disinfectants and Disinfection Byproducts (DBP1) rule, current federal usage standards, and agency language usage standards. In response to comment, the phrase "of any population" is added to the heading of the schedule for systems in a combined distribution system in the adopted language of the figure in 30 TAC §290.113(a)(2), since without this clarification the rule could imply that the generality of population applies only to the wholesale system. Further, for consistency with adopted rule changes in response to a comment on the figure in §290.115(a)(2), two colons have also been inserted in the figure in §290.113(a)(2). The first colon is inserted in the figure in §290.113(a)(2) in the adopted row heading titled "Systems of any population that are part of a combined distribution system," and another colon is inserted in the row heading titled "Systems that are not part of a combined distribution system and systems that serve the largest population in the combined distribution system." The commission amends §290.113(b)(2) to abbreviate the term "milligrams per liter" in its second usage to "mg/L" in accordance with the TCEQ usage standards. The commission amends §290.113(c)(4) to remove a space after the opening quote in conformance with normal syntax standards. In response to comment, the adopted rule includes insertion of the phrase ", as long as it meets the requirements in subparagraph (D) of this paragraph" in §290.113(c)(4)(B) and (C) for consistency with 40 CFR §141.132(b)(1)(iii). The commission adopts §290.113(c)(4)(D) to describe the levels of total organic carbon that are required in order for a system with a surface water

EXHIBIT 1

treatment plant to remain eligible for reduced monitoring, consistent with the federal DBP1 rule in 40 CFR §141.132(b)(1)(iii). Without these rule changes, the rule would be less stringent than the federal rule. Additionally, the commission adopts the term "total organic carbon" in its first use in the section, consistent with normal syntax standards. The commission amends §290.113(c)(5)(A) to correctly reference the paragraphs containing requirements for any system to return to routine monitoring, and to specifically include the levels of total organic carbon required that would trigger a return to routine monitoring from reduced monitoring, consistent with the federal DBP1 rule in 40 CFR §141.132(b)(1)(iii). The commission adopts §290.113(c)(5)(D) to establish the authority of the executive director to return a system that has been on reduced monitoring to routine monitoring, consistent with the federal rule in 40 CFR §141.132(b)(1)(vi). The commission adopts §290.113(c)(6) to ensure that systems that are monitoring annually or less frequently must increase monitoring if any single sample exceeds the maximum contaminant level, consistent with the federal rule in 40 CFR §141.132(b)(1)(iv). In response to comment, the word "immediately" is added to the adopted rule language under §290.113(c)(6) to clarify that a system must begin monitoring quarterly in the quarter immediately following the monitoring period in which an exceedance occurs. The commission adopts §290.113(d) to correct a reference to a "certified" laboratory to instead reference an "accredited" laboratory, consistent with existing state rule under 30 TAC §25.4(f). The commission amends §290.113(f)(3)(C) to add the term "monitoring plan" to correctly reference the document in which public water systems are required to maintain a list of sample locations. The commission adopts §290.113(h) to adopt the federal definitions of best available technology for trihalomethane and haloacetic acid treatment at 40 CFR §141.64(b)(1)(ii) by reference.

The commission adopts §290.114, Other Disinfection Byproducts (Chlorite and Bromate), to be consistent with the federal DBP1 rule, current federal usage standards, and existing state rules. The commission amends §290.114(a) to require transient public water systems that use chlorine dioxide to comply with the requirements of the subsection, consistent with federal rule in 40 CFR §141.65(b)(2). The commission amends §290.114(a)(3)(B) to correct a reference to a "certified" laboratory to instead use the correct term "accredited" laboratory consistent with existing state rule under 30 TAC §25.4(f). The commission amends §290.114(a)(4)(B) to correct the rule citation to meet agency syntax standards. The commission adopts §290.114(b)(5)(E) to include the compliance calculation protocol for a system that does not perform all required sampling, consistent with the federal rule in 40 CFR §141.133(b)(2). The requirement is added to maintain consistency between state and federal regulations.

The commission adopts §290.115, Stage 2 Disinfection Byproducts (TTHM and HAA5), for consistency with federal rules, current federal usage standards, and agency rule writing standards. Section 290.115 contains requirements for both the DBP1 rule, promulgated by EPA on December 16, 1998, as well as requirements from the DBP2 rule, promulgated by the EPA on January 4, 2006. Several changes in the figure contained in §290.115(a)(2) are adopted in response to comments. First, in response to comment, the figure in §290.115(a)(2) is adopted with addition of the phrase "of any population" in the schedule's row heading for systems in a combined distribution system. Second, in response to comment, a colon is inserted in the adopted row heading titled "Systems of any population that are part of a combined distribution system" in the figure in §290.115(a)(2) and, for consistency at adoption, a colon is also inserted in the row heading titled "Systems that are not part of a combined distribution system and systems that serve the largest population in the combined distribution system." Third and finally, in response to comment, the footnote in the figure in §290.115(a)(2) referencing compliance extensions is adopted as "The executive director may grant up to an additional 24 months for compliance with maximum contaminant levels (MCLs) and operational evaluation levels if the system requires capital improvements to comply with an MCL" to adopt the footnote in 40 CFR §141.620(c) almost verbatim. In response to comment, adopted §290.115(a)(3) is amended to read "Systems must complete their monitoring plan for the additional Stage 2 TTHM and HAA5 requirements according to §290.121 of this title (relating to Monitoring Plans) before the date shown in the table entitled "Date to Start Stage 2 Compliance." The commission also amends §290.115(c)(1) to remove the hyphen in the word "by-product" to be consistent with current federal usage standards. The commission amends §290.115(c)(1)(A) to ensure that systems include results collected under the requirements of the prior DBP1 rule in making the determinations for sample sites required under the DBP2 rule, consistent with 40 CFR §141.600(a). In response to comment, §290.115(c) is amended to clarify that the executive director retains authority to set monitoring requirements for disinfection byproducts. The commission amends §290.115(c)(1)(C) to correctly reference the federal requirements for setting Stage 2 sample sites that are adopted by reference, consistent with the federal rule in 40 CFR §141.605(c) - (e). The commission adds the catch line of "Monitoring frequency and number of sample sites" by amending §290.115(c)(2) in accordance with the TCEQ standards for formatting rule language. The commission amends footnote 1 of the figure located in §290.115(c)(2), entitled, "Routine Stage 2 Monitoring Frequency and Number of Sites," to remove the hyphen in the words "by-product" to be consistent with current federal usage standards; and the commission also amends footnote 3 in the figure in §290.115(c)(2) to clarify the number of sample sites required at small systems, consistent with the federal rule in 40 CFR §141.620(c)(6). In response to comment, in the figure in §290.115(c)(2), superscript #3 in the column titled, "Routine Number of Sites" for groundwater systems serving 500 to 9,999 persons is removed to assure consistent stringency with 40 CFR §141.621(a)(2) requiring that this group of water systems take dual samples at each of the 2 monitoring sites. The commission adds the catch line of "Reduced monitoring for TTHM and HAA5" by amending §290.115(c)(3) in accordance with the TCEQ standards for formatting rule language. The commission amends §290.115(c)(3)(A) to remove the hyphen in the word "by-products" to be consistent with current federal usage standards. The commission amends §290.115(c)(3)(B) to correctly identify the conditions under which reduced monitoring can be continued, consistent with the federal DBP2 rule under 40 CFR §141.623(c). The commission amends §290.115(c)(3)(B)(i) to correctly refer to infrequent monitoring as reduced monitoring, rather than routine, to be consistent with the federal DBP2 rule under 40 CFR §141.623(c). The commission amends §290.115(c)(3)(B)(iii) to ensure that low total organic carbon levels are accurately referenced as a requirement for continuing on a reduced monitoring frequency schedule, as required under the federal DBP2 rule under 40 CFR §141.623(c). The commission adds the catch line of "Increased monitoring for TTHM and HAA5" by amending §290.115(c)(4) in accordance with the TCEQ standards for formatting rule language. The commission adds the catch line of "Initial Distribution System

EXHIBIT 1

Evaluation (IDSE) requirements" by amending §290.115(c)(5) in accordance with the TCEQ standards for formatting rule language. The commission amends §290.115(c)(5) to ensure that it is absolutely clear that all community systems must perform initial distribution system evaluation monitoring as required by 40 CFR §141.600(b). Before these rule changes, the sentence could be construed to mean that the limitation to systems serving fewer than 10,000 people could apply to both community and nontransient, noncommunity systems. The commission amends footnote 1 to the figure in §290.115(c)(5)(B) to correct a misspelling and also adopts the definition of the acronym "IDSE" in the figure's heading. The commission amends §290.115(c)(5)(B)(iii) to include the authority of the executive director to require initial distribution system evaluation monitoring even if a system meets the criteria for receiving a very small system waiver, consistent with the federal DBP2 rule under 40 CFR §141.600(d). The commission amends footnote 3 in the figure located in §290.115(c)(5)(C) by adding a period after the last sentence and also defined the acronym "IDSE" in the figure's heading. At adoption, the commission amends the figure in §290.115(c)(5)(C)(ii)(I) to correct the formatting by adding a horizontal line after the last row in the figure. Only this formatting is changed; no substantive changes are adopted. The commission also amends the figure titled, "Frequency of IDSE Monitoring" located in §290.115(c)(5)(C)(ii)(V) to define the acronym "IDSE" in the figure's heading. The commission also amends the figure in §290.115(c)(5)(C)(ii)(V) to remove from footnote 2 the terminology of "hottest month" for annual sampling and replace it with the terminology of "peak historical month" as contained in the federal DBP2 rule under 40 CFR §141.601(b)(1). In response to comment, the figure in §290.115(c)(5)(C)(ii)(V) is adopted with insertion of a reference to footnote 2 on the table column heading "Sampling Frequency and Timing" in order to reference the amended footnote defining a peak historical month. The commission adopts §290.115(c)(5)(C)(iii)(V) to include the requirement that the initial distribution system evaluation report include recommendations and justifications for the frequency of sample collection as contained in the federal DBP2 rule under 40 CFR §141.605(a). The commission amends §290.115(c)(5)(D) to specify that the executive director can require a system to perform an initial distribution system evaluation for any reason, as contained in the federal DBP2 rule under 40 CFR §141.600(d). The commission amends §290.115(d) to correct a reference to a "certified" laboratory, to refer to an "accredited" laboratory, consistent with existing state rule under 30 TAC §25.4(f). The commission amends §290.115(e)(1)(B) to specify when compliance determinations are initiated under the DBP2 rule as contained in 40 CFR §141.620(d)(1). The commission amends §290.115(e)(1)(C) to correct two cross-references. The commission amends §290.115(g) to correct letter capitalization in the catch line, in accordance with the TCEQ standards for formatting rule language. The commission adopts §290.115(h) to adopt the federal definitions of best available technology for trihalomethane and haloacetic acid treatment by reference, consistent with the federal rule in 40 CFR §141.64(b)(2)(ii). The requirements for best available technology are included in both §290.113(h) and §290.115(h) in order to ensure continuity between DBP1 and DBP2 requirements. In response to comment, a reference to the best available technology listed in 40 CFR §141.64(b)(2)(iii) is added to adopted §290.115(h).

The commission repeals existing §290.117, Regulation of Lead and Copper, and adopts the new §290.117 to incorporate the provisions of the federal LCSTR in 40 CFR Part 141, Subpart I. All of the sections that regulate chemicals in drinking water are arranged in a standard order. Specifically, subsections are organized as follows: applicability; specific standards, like maximum contaminant levels, action levels, or treatment techniques; monitoring frequency and location; analytical methods; reporting; compliance determination; and public notification. The repealed rule, initially adopted in 1991 to incorporate the original Lead Copper Rule and subsequent revisions, was not organized in that manner; therefore, adopted new §290.117 is organized in the manner of the rules regulating other chemicals. The intent of this reorganization is to make the rules easier for the regulated community to use. No change in stringency is intended, except as specifically related to the incorporation of the LCSTR rule, federally adopted on October 10, 2007. Additionally, as part of the LCSTR, the EPA is requiring that a full primacy crosswalk be performed by states. In other revisions to the lead and copper requirements, only partial crosswalks were required. Repealing and replacing the section allows staff to ensure that all elements of the original Lead Copper Rule and subsequent changes contained in 40 CFR Part 141, Subpart I, Lead and Copper, including the LCSTR, are appropriately incorporated in Texas rules. The specific organization of the adopted section is as follows: applicability; regulatory levels, including action levels, reduced monitoring levels, maximum permissible source water levels, and optimization levels; lead and copper tap sampling frequency and locations; lead and copper entry point monitoring frequency and locations; water quality parameter monitoring frequency and locations; corrosion control requirements; source treatment requirements; analytical methods, including sample analysis, collection, and invalidation methods; reporting; consumer notification; public education; compliance determination; lead service line replacement; and additional sampling.

The commission adopts new §290.117(a) to contain the applicability requirements of the repealed state rule of §290.117(a)(1) and federal rule in 40 CFR §141.80(a), (a)(1), and (b), that these requirements apply to community and nontransient, noncommunity public water systems.

The commission adopts new §290.117(b) to contain specific standards for lead and copper in drinking water from the repealed state rules and new federal rules. Unlike other rules for chemicals in drinking water, the EPA has not set maximum contaminant levels for lead and copper levels in drinking water. Instead, the federal rule sets action levels and other requirements. New §290.117(b) is adopted to include action levels for lead and copper in the distribution system, trigger levels for allowing reduced lead and copper tap sampling, practical quantitation levels for lead and copper, optimal water quality parameter ranges, the conditions defining a system as having been deemed to have optimized corrosion control, and maximum permissible source water lead levels.

New §290.117(b)(1) is adopted to contain the lead and copper action levels for drinking water in distribution systems, contained in the repealed state rule under §290.117(a)(3). New §290.117(b)(1)(A) is adopted to contain the lead action level of 0.015 milligrams per liter (mg/L) for tap sampling results, contained in the repealed state rule under §290.117(a)(3) and 40 CFR §141.80(c)(1). New §290.117(b)(1)(B) is adopted to contain the copper action level of 1.3 mg/L for tap sampling results, contained in the repealed state rule under §290.117(a)(3), and in the federal rule at 40 CFR §141.80(c)(2).

New §290.117(b)(2) is adopted to contain the lead and copper tap sample levels that will allow systems to initiate and remain

EXHIBIT 1

on reduced tap sampling schedules. These requirements were in repealed state rules in §290.117(e)(5) and are contained in 40 CFR §141.86(d)(4)(v).

New §290.117(b)(3) is adopted to contain the practical quantitation levels for lead and copper contained in the repealed state rule under §290.117(l)(2). New §290.117(b)(3)(A) is adopted to contain the practical quantitation level for lead of 0.005 mg/L, as contained in 40 CFR §141.89(a)(1)(ii)(A); new §290.117(b)(3)(B) is adopted to contain the practical quantitation level for copper of 0.050 mg/L, in the federal rule at 40 CFR §141.89(a)(1)(ii)(B).

New §290.117(b)(4) is adopted to contain the optimal water quality parameter ranges that public water systems may be required to set in the event of a lead or copper tap sampling exceedance contained in the repealed state rule in §290.117(h)(1)(P) and (j)(1), consistent with the federal rules in 40 CFR §141.81(d)(7) and (e)(8). New §290.117(b)(4)(A) is adopted to list the constituents and sample sites that make up optimal water quality parameter ranges. New §290.117(b)(4)(A)(i) is adopted to contain the requirement that optimal water quality parameter ranges be set for pH in entry point samples, as contained in 40 CFR §141.82(f)(1). New §290.117(b)(4)(A)(ii) is adopted to contain the requirement that optimal water quality parameter ranges be set for pH in distribution samples, with a minimum not below 7.0, as contained in the federal rule in 40 CFR §141.82(f)(2). New §290.117(b)(4)(A)(iii) is adopted to contain the optimal water quality parameter range requirements for systems that use a corrosion inhibiting chemical as contained in 40 CFR §141.82(f)(3). New §290.117(b)(4)(A)(iv) is adopted to contain the optimal water quality parameter range requirements for systems that use an alkalinity adjusting treatment or chemical as contained in 40 CFR §141.82(f)(4). New §290.117(b)(4)(A)(v) is adopted to contain the optimal water quality parameter range requirements of 40 CFR §141.82(f)(5) for systems that use calcium carbonate to control corrosion. New §290.117(b)(4)(B) is adopted to include the requirement of repealed §290.117(h)(1)(P) that systems must submit their proposed, system-specific optimal water quality parameter ranges in writing, consistent with 40 CFR §141.82(c)(6) and (h). New §290.117(b)(4)(C) is adopted to contain the approval time line for optimal water quality parameter ranges of repealed §290.117(h)(1)(Q), consistent with 40 CFR §141.81(e)(7) and §141.82(f).

New §290.117(b)(5) is adopted to contain the levels to be achieved in order for a system to be deemed to have optimized their corrosion control treatment strategy, as described in 40 CFR §141.80(d)(2), consistent with repealed §290.117(j). New §290.117(b)(5)(A) is adopted to contain the requirement for small and medium systems serving 50,000 or fewer people to meet the lead and copper action levels in two consecutive initial or routine monitoring periods in order to be deemed to have optimized corrosion control, as contained in repealed §290.117(j)(4)(G), consistent with 40 CFR §141.81(b)(1). New §290.117(b)(5)(B) is adopted to contain the requirement that large systems serving more than 50,000 people may be deemed to have optimized corrosion control if the difference between the 90th percentile lead level and the highest entry point lead level is less than the practical quantitation level and the system meets the copper action levels in two consecutive initial or routine monitoring periods as contained in repealed §290.117(h)(2)(A) and (j)(5)(B), consistent with 40 CFR §141.81(b)(3). New §290.117(b)(5)(C) is adopted to include the general requirement that those systems whose highest lead level measured at the entry point is less than the method detection limit may also be deemed to have optimized corrosion control if their 90th percentile tap water lead level is less than or equal to the practical quantitation level for lead for two consecutive six-month monitoring periods as provided by 40 CFR §141.81(b)(3)(i). New §290.117(b)(5)(D) is adopted to include the language of the state rule in repealed §290.117(j)(5)(A) consistent with the federal requirements of 40 CFR §141.81(b)(2) that a system that performs activities equivalent to corrosion control may be deemed to have optimized corrosion control treatment. New §290.117(b)(5)(E) is adopted to describe the conditions under which a system will no longer be deemed to have optimized corrosion control treatment contained in the state rule in repealed §290.117(j)(3) and (4)(G), and consistent with the federal requirements of 40 CFR §141.81(b)(2) and (3)(iv).

New §290.117(b)(6) is adopted to provide authority for the executive director to establish the maximum permissible levels for source water lead for systems that are required to install source water treatment as contained in the federal rules at 40 CFR §141.83(a)(5) and (b)(4). The adopted rule also describes the method to be used by the executive director when setting these levels.

New §290.117(c) is adopted to contain requirements for lead and copper tap sampling locations and frequency contained in repealed §290.117(b) and (c), consistent with the federal requirements of 40 CFR §§141.80(h), 141.81(e)(1) and (8), and 141.86(g)(5) and (5)(iii).

New §290.117(c)(1) is adopted to contain the specific procedures and requirements for selecting lead and copper tap sampling locations requirements contained in repealed §290.117(c), consistent with the federal rule at 40 CFR §141.86(a)(1). New §290.117(c)(1)(A) is adopted to specify the number of required sample sites, based on the population of the system, contained in repealed §290.117(c)(6), and consistent with 40 CFR §141.86(c). In order to accomplish this, a table entitled "Required Number of Lead and Copper Tap Sample Sites" has been adopted as §290.117(c)(1)(A), containing the requirements in the table in repealed §290.117(c)(6). New §290.117(c)(1)(B) is adopted to describe what taps can be used as sample sites, as described in repealed §290.117(b)(3), consistent with the federal rules, 40 CFR §141.86(a) and (a)(1).

New §290.117(c)(1)(C)(i) is adopted to specifically reference new TCEQ Form Number 20467, the Sample Site Selection and Material Survey Form to submit proposed sample locations. The requirement for types of sites to be selected is contained in adopted and repealed §290.117(c)(1) and the official form number has been added. The requirements for the survey of materials were contained in repealed §290.117(b)(1) and (2), and (c)(1)(A), and are consistent with the federal requirements of 40 CFR §141.86(a)(1) and (2). New §290.117(c)(1)(C)(i)(I) - (IV) is adopted to contain the specific federal requirements of 40 CFR §141.86(a)(2)(i) - (iii), relating to the sources of information that a public water system must use when performing their material survey. These specific requirements were not contained in the repealed state language, but were implemented through standard operating procedures for submittal of forms.

New §290.117(c)(1)(C)(ii) is adopted to contain the specific process that a public water system must use to consider selection of sample sites starting with worst case - tier 1 sites - first, followed by less vulnerable sites, requirements which were contained in repealed §290.117(b)(1) and (2), and which are consistent with the federal requirements of 40 CFR §141.86(a). New §290.117(c)(1)(C)(ii)(I) is adopted to reference the defini-

EXHIBIT 1

tions of age and materials for tier 1, 2, and 3 sites that is adopted in new subparagraph (D), immediately following this subparagraph, as contained in the repealed §290.117(b)(3), consistent with 40 CFR §141.86(a)(3) and (4). New §290.117(c)(1)(C)(ii)(II) is adopted to contain the provision that a community system that does not have enough sites meeting the tier 1, 2, and 3 definitions of adopted new §290.117(c)(1)(D) may sample at other representative sites throughout the distribution system, as provided by 40 CFR §141.86(a)(5). Similarly, new §290.117(c)(1)(C)(ii)(III) is adopted to contain the provision that nontransient, noncommunity public water systems that do not have enough tier 1, 2, or 3 sites shall select sites potentially vulnerable to copper corrosion, followed by selection of sites representing the distribution system, consistent with 40 CFR §141.86(a)(7). New §290.117(c)(1)(C)(ii)(IV) is adopted to contain the provisions for selecting sample sites in systems with lead service lines, consistent with the federal rule at 40 CFR §141.86(a)(8); historically, the use of lead pipes in Texas was extremely rare, so this is not likely to impact any public water systems in Texas. New §290.117(c)(1)(C)(ii)(V) is adopted to require submittal of any explanatory information with submittal of the Site Selection Form as required by repealed §290.117(b)(2). The use of TCEQ form numbers is specific to the TCEQ implementation practices, so there is not a concurrent federal citation.

New §290.117(c)(1)(D) is adopted to contain the definitions of tier 1, 2, and 3 sites in terms of materials, type of facility, and date of installation, in order to explicitly adopt the federal requirements of 40 CFR §141.86(a). New §290.117(c)(1)(D)(i) is adopted to contain the definition of tier 1, worst case, sites at community public water systems, as contained in 40 CFR §141.86(a)(3). New §290.117(c)(1)(D)(i)(I) and (II) is adopted to contain the federal requirements of 40 CFR §141.86(a)(3)(i) and (ii), respectively, detailing the age and material for tier 1 sites at community systems. New §290.117(c)(1)(D)(ii) is adopted to contain the definition of tier 2 sites at community public water systems, as contained in the federal rule at 40 CFR §141.86(a)(4). New §290.117(c)(1)(D)(ii)(I) and (II) is adopted to contain the federal requirements of 40 CFR §141.86(a)(4)(i) and (ii), respectively, detailing the age and material qualifications for tier 2 sites in community public water systems. New §290.117(c)(1)(D)(iii) is adopted to contain the definition of tier 3 sites in community systems, as contained in 40 CFR §141.86(a)(5). New §290.117(c)(1)(D)(iv) is adopted to define other representative sites for community systems that do not have enough sites that meet the tier 1, 2, or 3 definitions, as contained in repealed §290.117(b)(3), consistent with 40 CFR §141.86(a)(5). New §290.117(c)(1)(D)(v) is adopted to define tier 1, worst case, sites at nontransient, noncommunity public water systems, consistent with the federal requirements of 40 CFR §141.86(a)(6). New §290.117(c)(1)(D)(v)(I) and (II) is adopted to contain the federal requirements of 40 CFR §141.86(a)(6)(i) and (ii), respectively, requiring that tier 1 sites at nontransient, noncommunity systems contain either lead or copper materials. New §290.117(c)(1)(D)(vi) is adopted to contain the definition of other representative sites at nontransient, noncommunity public water systems, consistent with the federal requirements of 40 CFR §141.86(a)(7).

New §290.117(c)(1)(E) is adopted to contain federal provisions in 40 CFR §141.85(b) and §141.90(a) allowing systems that do not have appropriate locations to accomplish first-draw sampling to use other sites; these requirements predate the LCSTR but were not previously contained in Texas rule language. Adding these provisions makes Texas rule language correspond more closely to federal language, and is consistent with the level of stringency in the federal rule. New §290.117(c)(1)(E)(i) is adopted to describe the specific types of systems that may request non-first-draw sample sites, as contained in the federal rules, 40 CFR §141.85(b)(7) and §141.90(a)(2). New §290.117(c)(1)(E)(i)(I) is adopted to provide that prisons and hospitals, or other facilities where the population served cannot change the plumbing or add point of use devices, may request approval of non-first-draw sites, consistent with 40 CFR §141.85(b)(7)(i). New §290.117(c)(1)(E)(i)(II) is adopted to contain the requirement that these systems may only request non-first-draw sample sites if the system provides water as part of the cost of services provided and does not separately charge for water consumption, as contained in 40 CFR §141.85(b)(7)(ii). New §290.117(c)(1)(E)(ii) is adopted to require that any request for approval of non-first-draw sample sites must be in writing, and must be updated when conditions change, as required under the federal rules at 40 CFR §141.90(a)(1)(v) and (2).

New §290.117(c)(1)(F) is adopted to contain the requirement of repealed §290.117(c)(1) for systems that have fewer than five taps, which is the minimum number of sample sites required; consistent with 40 CFR §141.86(c) and (d)(4)(i), these systems may request a reduction in the minimum number of sites to be used.

New §290.117(c)(1)(G) is adopted to contain the requirement that the same sample sites be used in each sampling round, as contained in repealed §290.117(m)(1)(G), consistent with the federal requirement of 40 CFR §141.90(b)(2). New §290.117(c)(1)(G)(i) is adopted to contain the requirement of repealed §290.117(m)(1)(G) that changes must be requested in writing. New §290.117(c)(1)(G)(ii) is adopted to provide the protocol to be used by the system when circumstances outside their control make it necessary for them to replace sampling sites due to changes occurring in their distribution system, as provided by the state rule under repealed §290.117(c)(3), and consistent with the federal requirements of 40 CFR §141.90(a)(1)(v).

New §290.117(c)(2) is adopted to contain the monitoring frequency requirements for lead and copper tap sampling, consistent with the requirements of repealed §290.117(c) and the federal requirements of 40 CFR §141.86(c). New §290.117(c)(2)(A) is adopted to contain the most frequent, initial and routine tap sample monitoring requirements; specifically, the requirements that new systems, systems that exceed any action level, systems that install corrosion control treatment, systems that exceed a reduced monitoring level, and systems that operate outside an approved optimal water quality parameter range shall perform lead and copper tap sampling in two consecutive six-month monitoring periods at the initial/routine number of sample sites identified in adopted new §290.117(c)(1), consistent with repealed §290.117(j)(4)(G) and the federal requirements of 40 CFR §141.86(d). New §290.117(c)(2)(A)(i) is adopted to contain the timing for initial tap sampling for new systems, starting in the year after they become active, as referenced in repealed §290.117(c)(5), (7), and (8), consistent with 40 CFR §141.86(d)(1). The new rule is adopted to provide consistency with implementation practice. Previously, the repealed Texas rule specifically stated that initial tap sampling occur in the calendar year following assignment of a new public water system identification number. However, a public water system identification number is assigned to systems during design, development, and construction, which may take longer than one year. Therefore, the rule is adopted to require systems to start sampling the year after they become

EXHIBIT 1

active. In practice, a public water system's activity status is changed from "proposed" to "active" after construction is complete and the system starts delivering water to at least 25 people (or at least 15 homes) for 60 days or more each year. New §290.117(c)(2)(A)(ii) is adopted to contain the routine tap sampling requirements for systems that have been triggered out of reduced monitoring because of an action level exceedance, reduced monitoring trigger level exceedance, or failure to operate within approved optimal water quality parameter ranges, consistent with the implicit requirements of repealed §290.117(e),and containing the federal requirements of 40 CFR §141.86(d)(4). New §290.117(c)(2)(A)(ii)(I) is adopted to require that systems which exceed a lead or copper action level, based on the 90th percentile of their sample set, return to routine tap sampling, consistent with 40 CFR §141.86(d)(4)(vi)(B). New §290.117(c)(2)(A)(ii)(II) is adopted to require systems that operate outside of approved optimal water quality parameter ranges return to routine tap sampling, consistent with 40 CFR §141.86(d)(4)(vi)(B). New §290.117(c)(2)(A)(ii)(III) is adopted to contain the timing requirement that systems that return to routine monitoring do so in the calendar year following the triggering event, consistent with 40 CFR §141.86(d)(4)(vi)(B). New §290.117(c)(2)(A)(ii)(IV) is adopted to include the timing for small and medium systems that are required to perform one year of routine monitoring after designation of optimal corrosion control treatment, as contained in repealed §290.117(j)(4)(G), consistent with 40 CFR §141.81(e)(6) and §141.86(d)(2)(i) and (ii), and (4)(vi)(B). New §290.117(c)(2)(A)(ii)(V) is adopted to require that a system perform tap sampling on the routine schedule after they install corrosion control treatment, consistent with the federal rule, 40 CFR §141.86(d)(2)(iii). New §290.117(c)(2)(A)(ii)(VI) is adopted to contain the requirement of 40 CFR §141.86(d)(2)(iii) that any system that installs source treatment return to routine tap sample monitoring.

New §290.117(c)(2)(B) is adopted to describe the reduced annual monitoring requirements for lead and copper tap sampling. Generally, systems that successfully perform initial monitoring with no exceedances, that meet all optimal water quality parameter ranges, and that are not in the process of determining and installing corrosion control treatment are allowed to reduce sampling to once a year, in the summer, as contained in repealed §290.117(e)(1) - (3), consistent with the federal requirements of 40 CFR §141.86(c) and (d)(4)(i), (ii), and (iv). New §290.117(c)(2)(B)(i) is adopted to allow systems serving more than 50,000 people that meet the lead action levels and optimal water quality parameter ranges during two consecutive six-month initial or routine sampling periods to reduce their sampling frequency to once a year, consistent with the federal requirements of 40 CFR §141.86(d)(4)(i). New §290.117(c)(2)(B)(ii) is adopted to allow systems serving 50,000 or fewer people that meet both the lead and copper action levels during two consecutive six-month initial or routine sampling periods to reduce their sampling frequency to once a year, consistent with the federal requirements of 40 CFR §141.86(d)(4)(i). New §290.117(c)(2)(B)(iii) is adopted to allow systems serving 50,000 or fewer people that meet the lead action levels and optimal water quality parameter ranges during two consecutive six-month initial or routine sampling periods to reduce their sampling frequency to once a year, consistent with the federal requirements of 40 CFR §141.86(d)(4)(i). New §290.117(c)(2)(B)(iv) is adopted to require that systems with initial or routine lead and copper results falling between the reduced monitoring levels and the action levels must continue annual monitoring for two consecutive years before becoming eligible for triennial reduced monitoring, consistent with the federal requirements of 40 CFR §141.86(d)(4)(iv). New §290.117(c)(2)(B)(v) is adopted to provide the timing for systems that take advantage of flexibility under the new federal LCSTR that allows systems that are not operational in the summer to collect tap samples in an alternate period, when they are operational, consistent with the federal requirements of 40 CFR §141.86(d)(4)(iv)(B). New §290.117(c)(2)(B)(v) is adopted to ensure that systems that start collecting tap samples in an alternate period start doing so within 21 months of ceasing their summer sampling, consistent with the federal requirements of 40 CFR §141.86(d)(4)(iv)(B). New §290.117(c)(2)(B)(vi) is adopted to contain the general requirement that systems operating outside of any approved optimal water quality parameter ranges are ineligible for reduced monitoring, consistent with the federal requirements of 40 CFR §141.86(d)(4)(iv)(B).

New §290.117(c)(2)(C) is adopted to contain the requirements that apply to further reduction of tap sampling frequency from annual to once every three years contained in repealed §290.117(e)(5), consistent with the federal requirements of 40 CFR §141.86(c) and (d)(4)(iv). New §290.117(c)(2)(C)(i) is adopted to contain the requirement of repealed §290.117(e)(5) that a system with lead levels lower than the reduced monitoring triggers during initial or routine monitoring may immediately be placed on a three-year tap sampling schedule, consistent with the federal rule requirements of 40 CFR §141.86(d)(4)(v). New §290.117(c)(2)(C)(ii) is adopted to establish that systems serving 50,000 or fewer people may lessen tap sampling frequency to every three years after three years of consecutive annual monitoring during which the system meets the action levels for lead and copper, consistent with the federal requirements of 40 CFR §141.86(d)(4)(iii). New §290.117(c)(2)(C)(iii) is adopted to incorporate the provision of the new federal LCSTR in 40 CFR §141.86(d)(4)(iii) that a system must operate within any approved optimal water quality parameter ranges in order to be allowed to reduce monitoring to every three years. New §290.117(c)(2)(C)(iv) is adopted to incorporate the provision of the new federal LCSTR in 40 CFR §141.86(d)(4)(iii) that systems scheduled for triennial tap sampling collect those samples no later than every third calendar year. New §290.117(c)(2)(C)(v) is adopted to incorporate the provisions of the new federal LCSTR in 40 CFR §141.81(b)(3)(ii) and §141.86(d)(4)(iv)(B) that systems on reduced three-year monitoring that are approved to sample during some time period other than the summer must collect subsequent tap sampling during a time period that ends no later than 45 months after the previous round of sampling.

New §290.117(c)(2)(D) is adopted to incorporate the reduced nine-year lead copper tap sampling requirements for small water systems in repealed §290.117(g), consistent with the federal requirements of 40 CFR §141.86(c) and (g). New §290.117(c)(2)(D)(i) is adopted to incorporate the provision of the new federal LCSTR in 40 CFR §141.86(g)(7)(i) that the first round of nine-year reduced tap sampling shall be completed no later than nine years after the last time the system monitored for lead and copper at the tap. New §290.117(c)(2)(D)(ii) is adopted to contain the provisions of repealed §290.117(g)(2)(A) related to distribution system material requirements for nine-year sampling eligibility, consistent with the federal requirements of 40 CFR §141.86(g)(4) and (4)(i). New §290.117(c)(2)(D)(ii)(I) is adopted to contain the specifics of materials allowed in distribution systems in order to be eligible for nine-year tap sampling, as provided in repealed §290.117(g)(2)(A), consistent with 40 CFR §141.86(g)(1). New §290.117(c)(2)(D)(ii)(II) is adopted

EXHIBIT 1

to contain the provision that a system certify in writing and document the absence of lead-containing materials in their distribution system in order to be eligible for nine-year reduced tap sampling, as provided by repealed §290.117(g)(2)(A), consistent with the federal rules at 40 CFR §141.86(g)(1)(i)(A) and (B). New §290.117(c)(2)(D)(ii)(III) is adopted to contain the provision that a system certify in writing and document the absence of copper-containing materials in their distribution system in order to be eligible for nine-year reduced tap sampling, as provided by repealed §290.117(g)(2)(A), consistent with 40 CFR §141.86(g)(1)(ii). New §290.117(c)(2)(D)(ii)(IV) is adopted to contain the provision in repealed §290.117(g)(2)(D) that partial waivers shall not be issued. New §290.117(c)(2)(D)(iii) is adopted to contain the levels of lead and copper that a system must maintain in order to be allowed to reduce tap sampling to every nine years, as contained in repealed §290.117(g)(2)(B), consistent with the federal requirements of 40 CFR §141.86(g)(2), (2)(i) and (ii), (4), and (5)(i). New §290.117(c)(2)(D)(iv) is adopted to contain the provisions allowing the state to require additional activities, such as public notice, as a condition of a waiver, as contained in repealed §290.117(g)(2)(C), consistent with the federal requirements of 40 CFR §141.86(g)(3). New §290.117(c)(2)(D)(v) is adopted to contain the requirement of repealed §290.117(g)(2)(E) that systems notify the TCEQ of changes that could affect their nine-year monitoring eligibility status, consistent with 40 CFR §§141.82(h), 141.83(b)(6), and 141.86(d)(4)(vii) and (g)(4)(iii). New §290.117(c)(2)(D)(vi) is adopted to contain the federal requirements of 40 CFR §141.86(g)(4)(iv), (6), and (6)(ii) requiring the system to notify the executive director if the materials in their system change, and the requirement that a system may be required to return to more frequent monitoring. New §290.117(c)(2)(D)(vii) is adopted to contain the provisions of repealed §290.117(g)(1) relating to grandfathered nine-year waivers, consistent with 40 CFR §141.86(g)(7), (7)(i), and (ii). New §290.117(c)(2)(D)(viii) is adopted to contain the federal requirement of 40 CFR §141.86(d)(4)(iv)(B) that subsequent rounds of sampling, after a return to routine monitoring, must be collected annually, every three years, or every nine years, as required by this section.

New §290.117(c)(2)(E) is adopted to incorporate flexibility provided by the new federal LCSTR under 40 CFR §141.86(d)(4)(iv)(A) allowing systems that are not operational during June through September to request an alternate monitoring period for any required annual or less frequent monitoring.

New §290.117(c)(2)(F) is adopted to incorporate the provision of the new federal LCSTR under 40 CFR §141.85(b)(2)(vii) requiring that the end of the monitoring for normal summer monitoring is September 30 of the calendar year in which the sampling occurs, or, if the executive director has established an alternate monitoring period, the last day of that period.

New §290.117(c)(2)(G) is adopted to summarize requirements for systems to return to initial/routine monitoring frequency under this adopted subsection, to establish that the executive director shall determine whether a system continues to meet the requirements to remain on reduced monitoring, and to specifically establish the general requirement that systems required to return to routine monitoring shall sample at the number of routine sites, as opposed to the number of reduced sites, consistent with the federal requirements of 40 CFR §141.86(d)(4)(iii).

New §290.117(c)(2)(H) is adopted to include the special timing requirements for replacement lead or copper samples that are collected after any sample is invalidated, for example, when a sample exceeds hold time. The repealed rules under §290.117(f)(4) required that replacement samples be collected within ten days, whereas the federal rules under 40 CFR §141.86(f)(4) allow 20 days for collection of these replacement samples. The new adopted provision allows 20 days to provide greater flexibility to the regulated community and greater consistency with the federal rules.

New §290.117(c)(2)(I) is adopted to include the special tap sampling requirements for a nontransient, noncommunity system with less than five sampling taps, as provided under the federal rule in 40 CFR §141.86(c). These systems must collect at least one sample from each tap and then must collect additional samples from those same taps on different days during the monitoring period to meet the required number of samples unless they have a waiver. In the repealed Texas rule language, systems were required to submit results within ten days; this has been changed to conform with the federal rule requiring that systems must submit samples within 20 days.

New §290.117(c)(3) is adopted to incorporate the provision of the new federal LCSTR under 40 CFR §141.85(c) that public water systems that exceed the lead action level must arrange for special tap sampling at the tap of any customer who requests it, but that any analytical costs incurred may be borne by the consumer rather than the water system.

Under certain conditions, public water systems that may be at risk of having lead and copper in their drinking water may be required to do sampling to determine whether lead or copper is entering the system from the original sources that they use, rather than leaching into the system because of corrosive water. New §290.117(d) is adopted to contain the requirements for determining the lead and copper samples in sources through entry point sampling, contained in repealed §290.117(h)(2)(A) and (D), consistent with the federal provisions of 40 CFR §141.80(h) and §141.88(a)(1) and (2). Under these requirements, systems must perform entry point lead and copper sampling after the system exceeds a lead or copper action level, installs source water treatment, exceeds any maximum permissible source water levels set by the executive director, and as part of normal entry point monitoring for inorganic contaminants.

New §290.117(d)(1) is adopted to identify the sample sites for entry point sampling contained in repealed §290.117(h)(2), consistent with the federal requirements of 40 CFR §141.88(a)(1)(i) and (ii). The federal rule refers to composite sampling that is no longer practiced by TCEQ, as a result of instructions from EPA, so no reference to composite sampling is included in the adopted rule language.

New §290.117(d)(2) is adopted to contain timing and frequency requirements for entry point lead and copper sampling under the federal rules at 40 CFR §141.88(a)(1)(iii), consistent with the requirements of repealed §290.117(h)(2), including the requirement that samples be collected under normal operating conditions. New §290.117(d)(2)(A) is adopted to contain the requirements of repealed §290.117(h)(2)(A), consistent with the federal requirements of 40 CFR §141.88(b), that entry point lead and copper sampling be performed if a system exceeds lead or copper action levels. New §290.117(d)(2)(B) is adopted to provide that systems meeting the lead and copper action levels do not have to conduct entry point sampling, as provided under the federal rules at 40 CFR §141.88(d)(2). New §290.117(d)(2)(C) is adopted to establish that public water systems must perform entry point lead and copper sampling after installation of source wa-

EXHIBIT 1

ter treatment, as contained in repealed §290.117(h)(2)(C), consistent with the federal requirements of 40 CFR §141.88(c).

New §290.117(d)(2)(D) is adopted to incorporate provisions of repealed §290.117(h)(2)(D), consistent with the federal rule at 40 CFR §141.88(d) relating to entry point lead and copper sampling after specification of maximum permissible levels. New §290.117(d)(2)(D)(i) is adopted to incorporate the provision that systems using surface water sources shall collect lead and copper entry point samples annually after maximum permissible levels are set, consistent with the provisions of 40 CFR §141.88(d)(1) and (1)(ii). New §290.117(d)(2)(D)(ii) is adopted to incorporate the provision that systems using groundwater sources shall collect entry point lead and copper samples once every three calendar years, consistent with the federal rule at 40 CFR §141.88(d)(1)(i). New §290.117(d)(2)(D)(iii) is adopted to incorporate reduced nine-year monitoring for entry point lead and copper under certain criteria for systems that use only groundwater, consistent with the federal rule at 40 CFR §141.88(e)(1). New §290.117(d)(2)(D)(iii)(I) and (II) is adopted to incorporate the criteria for reduced nine-year entry point lead and copper monitoring contained in 40 CFR §141.88(e)(1)(i) and (ii), respectively, that the entry point levels not exceed maximum permissible levels, or that the executive director determined source water treatment is not needed and that during three consecutive rounds the lead and copper entry point levels were less than the reduced monitoring trigger levels for groundwater systems. Similarly, new §290.117(d)(2)(D)(iv) is adopted to incorporate reduced nine-year entry point lead and copper sampling requirements for surface water systems, consistent with the federal rule at 40 CFR §141.88(e)(2). New §290.117(d)(2)(D)(iv)(I) and (II) is adopted to incorporate the specific criteria in the federal rules at 40 CFR §141.88(e)(2)(i) and (ii), respectively, that either the entry point lead and copper levels remain below the maximum permissible levels for three consecutive years or that the entry point lead and copper levels remain below the reduced monitoring trigger levels and the executive director has determined that source water treatment is not required. New §290.117(d)(2)(D)(v) is adopted to incorporate the federal provision of 40 CFR §141.88(e)(3) that new sources are not eligible for reduced monitoring. New §290.117(d)(2)(D)(vi) is adopted to add the special confirmation sampling requirements after any lead or copper entry point sample exceeds the maximum permissible level, consistent with the federal rule at 40 CFR §141.88(a)(2).

New §290.117(d)(2)(E) is adopted to incorporate the provisions of repealed §290.117(h)(2)(F), consistent with the federal rule of 40 CFR §141.86(d)(4)(vii) requiring that water systems shall notify the executive director in writing of any proposed change in treatment or the addition or deletion of a source of water, and that the executive director may require any such system to conduct additional monitoring or to take other action to ensure that the system maintains minimal levels of corrosion in the distribution system.

New §290.117(e) is adopted to contain the monitoring requirements for water quality parameters used to track the corrosivity of the drinking water in the distribution system, consistent with the federal requirements of 40 CFR §141.80(h) and §141.87. The new federal LCSTR under 40 CFR §141.87 provides a table summarizing and clarifying all of the various water quality monitoring parameter requirements; throughout adopted §290.117(e) this tabular format is incorporated into the state rules to make the rules easier for the regulated community to understand.

New §290.117(e)(1) is adopted to incorporate requirements for water quality parameter sample locations in repealed §290.117(h)(1)(D), consistent with 40 CFR §141.87(a)(2). The new figure in §290.117(e)(1) is adopted to specify the number of water quality parameter distribution system sample sites as a function of system population in tabular form. New §290.117(e)(1)(A) is adopted to contain the entry point sample site requirements of existing §290.117(h)(1)(D), consistent with 40 CFR §141.87(c)(3). New §290.117(e)(1)(B) is adopted to contain the provision that water quality parameter distribution system sample sites can be located outside of a customer's home, as contained in repealed §290.117(h)(1)(E), and consistent with the federal requirements of 40 CFR §141.87(a)(1)(i).

New §290.117(e)(2) is adopted to incorporate initial or routine monitoring requirements for water quality parameter sampling frequency as provided under repealed §290.117(h)(1)(D), consistent with the federal requirements of 40 CFR §141.87(b). The figure in §290.117(e)(2) is adopted to present initial and routine distribution and entry point sampling requirements in tabular form. This adopted table is consistent with the list of sampling parameters and number of sites for initial and routine water quality parameters under repealed §290.117(h)(1)(C), and is consistent with the federal requirements of 40 CFR §141.87(b)(1)(i) - (vii) and (2). New §290.117(e)(2)(A) is adopted to incorporate provisions for initial and routine water quality parameter monitoring of repealed §290.117(h)(1)(D), consistent with the federal rule under 40 CFR §141.87. New §290.117(e)(2)(B) is adopted to incorporate the requirement that systems which exceed a lead or copper action level must monitor for water quality parameters at the routine frequency, as contained in repealed §290.117(h)(1)(B), consistent with the federal requirements of 40 CFR §141.87(b). The federal rule under 40 CFR §141.87(b)(1) requires that two samples be collected during each six-month period; the repealed Texas rule required quarterly sampling. These requirements are equally stringent, so the adopted rule retains the quarterly monitoring requirement of the repealed state rule under §290.117(h)(1)(C) in adopted §290.117(e)(2).

New §290.117(e)(3) is adopted to incorporate the requirements for water quality parameter monitoring after installation of corrosion control treatment contained in repealed §290.117(h)(1)(F), consistent with the federal requirements of 40 CFR §141.86(d)(2)(ii) and §141.87(c). The figure in §290.117(e)(3) is adopted to present these monitoring requirements in tabular form consistent with the requirements of repealed §290.117(h), consistent with the federal requirements of 40 CFR §141.87(c)(1) - (3). New §290.117(e)(3) is adopted to retain requirements for collection of one sample set each quarter under repealed §290.117(h)(1)(H), consistent with the federal requirement under 40 CFR §141.87(c) and (c)(1), which requires a system to collect two sample sets in each six-month period. New §290.117(e)(3)(A) is adopted to contain the required frequency of water quality parameter monitoring after installation of corrosion control treatment contained in repealed §290.117(h)(1)(O), consistent with the federal requirements of 40 CFR §141.87(c)(2). New §290.117(e)(3)(B) is adopted to contain the requirements for documentation for water quality parameter sample locations after installation of corrosion control treatment contained in repealed §290.117(h)(1)(G) and (M), consistent with the federal requirements of 40 CFR §141.87(c)(3). New §290.117(e)(3)(C) is adopted to incorporate the new federal requirement of the LCSTR under 40 CFR §141.82(a) and §141.87(b), establishing that the state may

EXHIBIT 1

require additional water quality parameter monitoring to assist in determining the optimal corrosion control treatment.

New §290.117(e)(4) is adopted to incorporate the requirements for water quality parameter monitoring after designation of optimal water quality parameter ranges, as provided by the new federal LCSTR under 40 CFR §141.87. The new figure in §290.117(e)(4) is adopted to present these requirements in tabular form, consistent with the federal requirements of 40 CFR §141.87. New §290.117(e)(4)(A) is adopted to contain the new federal LCSTR requirement under 40 CFR §141.87(d) for large systems to begin water quality parameter monitoring starting with the first six-month period after the executive director specifies the optimal water quality parameters beginning on either January 1 or July 1, whichever comes first, and that those systems monitor every six months. Adopted new §290.117(e)(4) contains quarterly monitoring requirements synonymous with the repealed Texas requirements of §290.117(h)(1)(C); this is consistent with the stringency of the federal rule that requires two sampling events during each six-month period under 40 CFR §141.87(d) and (e). New §290.117(e)(4)(B) is adopted to contain the new federal LCSTR requirement under 40 CFR §141.87(d) for small and medium systems to begin water quality parameter monitoring starting with the six-month period when the system exceeds the lead or copper action levels. New §290.117(e)(4)(C) is adopted to incorporate the requirement that water quality parameter sampling be accomplished within 36 months after the executive director designates optimal corrosion control treatment, consistent with the federal requirements of 40 CFR §141.81(e)(6).

New §290.117(e)(5) is adopted to contain the requirements for reduced water quality parameter monitoring for systems that demonstrate a low risk of corrosion of lead and copper into the drinking water contained in repealed §290.117(h), consistent with the federal rules in 40 CFR §141.87(d) and (e)(1). The new figure in §290.117(e)(5) is adopted to present these requirements in tabular form. New §290.117(e)(5)(A) is adopted to contain the specific requirements for monitoring at a reduced number of sites, but on the routine frequency, for a system that operates within approved optimal water quality parameter ranges in all samples taken during two consecutive six-month initial or routine monitoring periods, consistent with repealed §290.117(h)(1)(N) and the federal requirements in 40 CFR §141.87(e) and (e)(1). Under adopted new §290.117(e)(5) the same justification as in adopted §290.117(e)(4) for quarterly sampling applies because the federal rule has both sampling after optimal water quality parameter designation and reduced sampling in the same rule. The federal rule in 40 CFR §141.87(d) requires sampling during a six-month period, then under 40 CFR §141.87(e)(1) the rule adds that two samples must be collected in this six-month period, which is equivalent to the quarterly sampling required in repealed §290.117(h)(1)(C). New §290.117(e)(5)(B) is adopted to include the requirements for a system to be scheduled for reduced annual water quality parameter monitoring, as provided in the federal rules under 40 CFR §141.87(e)(2) and (3). New §290.117(e)(5)(C) is adopted to include the requirements for a system to be scheduled for triennial water quality parameter monitoring as provided in the federal rule at 40 CFR §141.87(e)(2). New §290.117(e)(5)(C)(i) and (ii) is adopted to incorporate the provisions of the federal rule under 40 CFR §141.87(e)(2)(i) and (ii), respectively, setting the specific conditions under which triennial sampling may be scheduled, and when it shall begin. New §290.117(e)(5)(D) is adopted to contain the conditions under which a system that is on reduced water quality parameter monitoring must return to routine monitoring contained in repealed §290.117(h)(1)(H) - (J), consistent with 40 CFR §141.87(e)(4). New §290.117(e)(5)(E) is adopted to describe the entry point sampling requirements for systems on reduced water quality parameter monitoring, consistent with the requirements of the federal LCSTR in 40 CFR §141.87(e) and (e)(1).

Finally, new §290.117(e)(6) is adopted to establish the conditions under which the executive director may allow a system to forego entry point monitoring, while continuing distribution system monitoring, as provided in the federal rule under 40 CFR §141.87(c)(3).

New §290.117(f) is adopted to contain requirements related to corrosion control. New §290.117(f)(1) is adopted to establish the requirements for corrosion control studies. Systems may be required to perform corrosion control studies to determine whether treatment is necessary to reduce the corrosivity of the water, as contained in repealed §290.117(j), consistent with the federal requirements of 40 CFR §141.81(d) and (e).

New §290.117(f)(1)(A) is adopted to describe the applicability for a public water system being required to perform a corrosion control study consistent with repealed Texas rules in §290.117(j) and consistent with the federal requirements under 40 CFR §141.81. New §290.117(f)(1)(A)(i) is adopted to require large systems to perform corrosion control studies if they are not deemed to have optimized corrosion control, consistent with the repealed state rule in §290.117(j)(2), consistent with the federal rule requirements of 40 CFR §141.81(a)(1). New §290.117(f)(1)(A)(i)(I) is adopted to establish the requirement of repealed §290.117(j)(2) for large systems that have a lead or copper action level exceedance to perform a corrosion control study within six months, consistent with the federal requirements of 40 CFR §141.81(b)(3)(v). New §290.117(f)(1)(A)(i)(II) is adopted to incorporate the requirement contained in repealed §290.117(j)(2) specifying that large systems that have never been deemed to have optimized corrosion control must perform a demonstration study as opposed to a desk-top study, consistent with the federal requirements of 40 CFR §141.81(d) and §141.82(c). New §290.117(f)(1)(A)(i)(III) is adopted to contain the federal 12-month deadline of 40 CFR §141.81(e)(2) for systems to conduct a corrosion control study and submit the results. New §290.117(f)(1)(A)(ii) is adopted to contain the corrosion control study requirements for small and medium systems, in repealed §290.117(j)(4)(A), consistent with the timing and applicability requirements of the federal rules in 40 CFR §141.81(e)(2) and (3). New §290.117(f)(1)(A)(ii) is also adopted to contain the conditions under which a small or medium system can cease performing corrosion control activities, consistent with the federal requirements of 40 CFR §141.81(a)(2) and (c).

New §290.117(f)(1)(B) is adopted to contain the scope of any corrosion control study that is required under the previous paragraph, consistent with the requirements given in the repealed state rules in §290.117(j)(4)(A) and the federal rules under 40 CFR §141.82(c)(4). New §290.117(f)(1)(B)(i) is adopted to contain the various corrosion treatment methods that must be investigated as part of any corrosion control study, as contained in repealed §290.117(j)(4)(A), consistent with the federal requirements of 40 CFR §141.82(c), (c)(1) and (2). New §290.117(f)(1)(B)(i)(I) is adopted to specify that a system must investigate the effectiveness of alkalinity and pH adjustment as part of any corrosion control treatment as currently contained in repealed §290.117(j)(4)(A)(i), consistent

EXHIBIT 1

with the federal requirements of 40 CFR §141.82(c)(1)(i). New §290.117(f)(1)(B)(i)(II) is adopted to specify that a system must investigate the effectiveness of calcium hardness adjustment as part of any corrosion control treatment, as contained in repealed §290.117(j)(4)(A)(ii), consistent with the federal requirements of 40 CFR §141.82(c)(1)(ii). New §290.117(f)(1)(B)(i)(III) is adopted to specify that a system must investigate the effectiveness of the addition of a phosphate-based or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective residual concentration in all test tap samples as part of any corrosion control treatment, as contained in repealed §290.117(j)(4)(A)(iii), consistent with the federal requirements of 40 CFR §141.82(c)(1)(iii). New §290.117(f)(1)(B)(ii) is adopted to require that systems performing corrosion control studies identify potential constraints to corrosion control treatment methods, consistent with the federal requirements of 40 CFR §141.82(c)(4) and (5). New §290.117(f)(1)(B)(ii)(I) and (II) is adopted to specify that a system must submit data regarding any adverse effects of a given treatment as part of their corrosion control study, consistent with the federal rule requirements of 40 CFR §141.82(c)(4)(i) and (ii), respectively.

New §290.117(f)(1)(C) is adopted to contain the requirements of repealed §290.117(j)(4)(B) describing the specific procedures for performing demonstration corrosion control studies, as contrasted with a desk-top study, consistent with the federal rule at 40 CFR §141.82(c)(2). New §290.117(f)(1)(C) is adopted to introduce the list of parameters that must be evaluated during a demonstration corrosion control study, as contained in repealed §290.117(j)(4)(C), consistent with the federal requirements of 40 CFR §141.82(c)(3). New §290.117(f)(1)(C)(i) - (ix) is adopted to contain the list of specific parameters, consistent with the federal requirements of 40 CFR §141.82(c)(3)(i) - (ix).

New §290.117(f)(1)(D) is adopted to contain the requirements for systems that are allowed to perform a desk-top corrosion control study instead of a demonstration study, as contained in repealed §290.117(j)(4)(B), consistent with the federal requirements of 40 CFR §141.82(c)(2).

New §290.117(f)(2) is adopted to establish the requirement that systems base recommended optimal water quality parameter ranges on the results of corrosion control studies; this requirement was contained in repealed §290.117(j)(4)(D) and (E), and is consistent with the federal requirements of 40 CFR §141.82(f) and (f)(5).

New §290.117(f)(3) is adopted to contain the basis and timing for designation of optimal corrosion control treatment as contained in repealed §290.117(j)(4)(D) and (E), consistent with the federal requirements of 40 CFR §141.81(e)(1) and (4). New §290.117(f)(3)(A) is adopted to specify that the results of corrosion control studies must be used to determine optimal corrosion control treatment recommendations, as contained in repealed §290.117(j)(4)(D), consistent with the federal requirements of 40 CFR §141.82(a) and (c)(6). New §290.117(f)(3)(B) is adopted to specify that the optimal corrosion control treatment process is the process that the executive director approves, not necessarily the process recommended by the system, as contained in repealed §290.117(j)(4)(E), consistent with the federal requirements of 40 CFR §141.82(d)(1) and (2). New §290.117(f)(3)(C) is adopted to provide the more specific conditions under which corrosion control treatment shall be designated as contained in the federal rule under 40 CFR §141.82(h), consistent with the requirements of repealed §290.117(j)(4)(E). New §290.117(f)(3)(D) is adopted to contain the condition that optimal corrosion control treatment designations shall be documented in writing, as required by repealed §290.117(j)(4)(E), consistent with the federal requirements of 40 CFR §141.81(e)(4) and (7) and §141.82(d)(1). New §290.117(f)(3)(D)(i) - (iii) is adopted to contain the timing for designation of optimal corrosion control treatment. Specifically, §290.117(f)(3)(D)(i) is adopted to contain the federal requirements of 40 CFR §141.81(e)(2) for large systems; §290.117(f)(3)(D)(ii) is adopted to contain the federal requirements of 40 CFR §141.81(e)(2)(i) for medium systems; and §290.117(f)(3)(D)(iii) is adopted to contain the federal requirements of 40 CFR §141.81(e)(2)(ii) for small systems.

New §290.117(f)(4) is adopted to contain the requirement that a system install the treatment that the executive director has designated as the optimal corrosion control treatment within 24 months, as contained in repealed §290.117(j)(1) and (4)(F), consistent with the federal requirements of 40 CFR §141.81(e)(5) and §141.82(e).

New §290.117(f)(5) is adopted to require that corrosion control treatment, after installation, be operated in a manner that ensures that the system will meet the approved optimal water quality parameter ranges, as required by the federal rule under 40 CFR §141.82(g). New §290.117(f)(5)(A) is adopted to contain the federal requirement of 40 CFR §141.82(f) that results of any sampling done by the system shall be used to determine whether a system is operating corrosion control treatment appropriately. New §290.117(f)(5)(B) is adopted to provide the authority of the federal rule under 40 CFR §141.81(b) for the executive director to set any requirements needed to ensure that optimal corrosion control treatment is maintained.

New §290.117(f)(6) is adopted to contain the allowance for small systems to discontinue corrosion control activities if sampling shows that the system no longer exceeds the lead action level consistent with the federal rule in 40 CFR §141.81(e)(2) and (3).

New §290.117(g) is adopted to contain the various requirements for systems that are required to install source water treatment consistent with repealed §290.117(h) and the federal requirements of 40 CFR §141.80(e) and §141.83.

New §290.117(g)(1) is adopted to contain the applicability requirements contained in repealed §290.117(h)(2)(B) describing the conditions under which a system may be required to install source water treatment as contained in the federal rule under 40 CFR §141.83(b), (b)(1), and (2). New §290.117(g)(1)(A) is adopted to contain the federal requirement of 40 CFR §141.83(b)(2) for a system to provide data to the TCEQ, consistent with the requirements of repealed §290.117(h)(2). New §290.117(g)(1)(B) is adopted to provide the list of possible treatment processes given in the federal rule under 40 CFR §141.83(b)(2), consistent with the requirements of repealed §290.117(h)(2). New §290.117(g)(1)(C) is adopted to contain the requirement of 40 CFR §141.83(b)(2) requiring systems to provide any information requested by the TCEQ, consistent with the requirements of repealed §290.117(h)(2)(B). Adopted new §290.117(g)(1)(D) would contain the so-called "no treatment" option for a system to provide data demonstrating that treatment of the source water is not necessary in order to minimize lead and copper levels at users' taps, as contained in the federal rule under 40 CFR §141.83(b)(1). Adopted new §290.117(g)(1)(E) establishes that the executive director shall notify the system in writing of the source water treatment determination and set forth the basis for the decision, consistent with the federal requirements of 40 CFR §141.83(b)(2).

EXHIBIT 1

New §290.117(g)(2) is adopted to contain the required schedule for installation of treatment of source water lead and copper as contained in repealed §290.117(h)(2)(B), consistent with the federal rule at 40 CFR §141.83(a). New §290.117(g)(2)(A) is adopted to require that a system exceeding the lead or copper action level recommend treatment to the executive director within 180 days, as required by the federal rule under 40 CFR §141.83(a)(1), and consistent with the adoption by reference of that federal language contained in the Texas rules under repealed §290.117(h)(2)(B). New §290.117(g)(2)(B) is adopted to contain the schedule for determination of source water treatment within six months after the system submits the treatment recommendation, as adopted by reference in repealed §290.117(h)(2)(B), and as specifically required by the federal rules in 40 CFR §141.83(a)(2). New §290.117(g)(2)(C) is adopted to contain the requirement that a system install the source water treatment approved by the executive director within 24 months after the executive director's determination, as contained in repealed §290.117(h)(2)(B), consistent with federal rules in 40 CFR §141.83(a)(3) and (b)(3). New §290.117(g)(2)(D) is adopted to identify required sampling after installation of source water treatment, as contained in repealed §290.117(h)(2)(B), consistent with federal rules in 40 CFR §§141.83(a)(4), 141.86(d)(2), and 141.88(c).

New §290.117(g)(3) is adopted to incorporate requirements for operation of source water lead and copper treatment contained in the federal rules in 40 CFR §141.83(a)(6) and (b)(3) and §141.88(d). New §290.117(g)(3)(A) is adopted to contain the requirement of the federal rule under 40 CFR §141.83(b)(5) that a system maintain entry point lead and copper levels below the maximum permissible levels consistent with repealed §290.117(h)(2)(D). New §290.117(g)(3)(B) is adopted to contain the authority of the federal rule at 40 CFR §141.83(b)(4) that the TCEQ may review the system's data and determine whether the system has properly installed and operated the source water treatment, consistent with repealed §290.117(h)(2)(F).

New §290.117(g)(4) is adopted to contain requirements of the federal rule under 40 CFR §141.83(b)(6) related to modification of source water treatment decisions, consistent with repealed §290.117(h)(2)(B) - (F).

New §290.117(h) is adopted to specify that the analytical methods, sample collection, and sample invalidation requirements for lead and copper sampling as well as water quality parameter sampling, required by this section must be consistent with the federal rule requirements in 40 CFR Part 141, Subpart I, relating to Lead and Copper. New §290.117(h)(1) is adopted to contain the procedure for collecting lead and copper tap samples contained in repealed §290.117(c)(1) and (2), consistent with the requirement for first-draw sample sites in the federal rule under 40 CFR §141.86(b)(2).

New §290.117(h)(2) is adopted to contain the required lead and copper tap sample analytical methods contained in repealed §290.117(l)(1) and contained in the federal rules under 40 CFR §141.89. New §290.117(h)(2)(A) is adopted to contain the accuracy that a lab must achieve in order to analyze lead and copper samples for rule compliance, as contained in repealed §290.117(l)(1) and as contained in the federal rules under 40 CFR §141.89(a)(1)(iii). New §290.117(h)(2)(B) is adopted to allow the use of previously collected data contained in repealed §290.117(l)(1) and as contained in the federal rules under 40 CFR §141.89(a)(2). New §290.117(h)(2)(C) is adopted to specify reporting requirements for low-level lead results, as contained in repealed §290.117(l)(4), consistent with the federal requirements of 40 CFR §141.89(a)(3). New §290.117(h)(2)(D) is adopted to specify reporting requirements for low-level copper results, as contained in repealed §290.117(l)(4), consistent with the federal requirements of 40 CFR §141.89(a)(4). New §290.117(h)(2)(E) is adopted to contain the holding time requirement contained in repealed §290.117(l)(5), consistent with the federal rule in 40 CFR §141.86(b)(2).

New §290.117(h)(3) is adopted to describe the conditions under which the executive director may invalidate a lead or copper tap sample, as contained in repealed §290.117(f)(2) and in federal requirements under 40 CFR §141.86(f)(1). New §290.117(h)(3)(A) is adopted to contain the allowance contained in repealed §290.117(f)(2)(A) that lead or copper tap samples may be invalidated if the laboratory establishes that improper sample analysis caused erroneous results, consistent with the federal rule at 40 CFR §141.86(f)(1)(i). New §290.117(h)(3)(B) allows for sample invalidation if it is determined that the sample was taken from an inappropriate site, as contained in repealed §290.117(f)(2)(B), consistent with the federal rule at 40 CFR §141.86(f)(1)(ii). New §290.117(h)(3)(C) is adopted to allow sample invalidation if the sample was damaged in transit, as contained in repealed §290.117(f)(2)(C), consistent with the federal requirements of 40 CFR §141.86(f)(1)(iii). New §290.117(h)(3)(D) is adopted to contain the requirement of repealed §290.117(f)(2)(D) that a sample subject to tampering may be invalidated, consistent with the federal rule requirement under 40 CFR §141.86(f)(1)(iv). New §290.117(h)(3)(E) is adopted to ensure that a sample cannot be invalidated solely because the follow-up sample result is higher or lower than the original sample, as contained in the federal rule under 40 CFR §141.86(f)(3). New §290.117(h)(3)(F) is adopted to contain the requirement that systems request sample invalidation in writing, as provided in repealed §290.117(f)(3), consistent with the federal rules under 40 CFR §141.86(f)(2) and (3).

New §290.117(h)(4) is adopted to contain the requirement in repealed §290.117(h)(1)(K) that the analytical methods for water quality parameters must be conducted at a lab that uses the methods provided in the federal rules under 40 CFR §141.89(a). New §290.117(h)(4)(A) is adopted to specify the analytical methods of the federal rules in 40 CFR §141.23(k)(1) for parameters mentioned in this section by reference as contained in repealed §290.117(l)(1), consistent with §290.122 and the federal rule at 40 CFR §141.89(a). New §290.117(h)(4)(B) is adopted to contain the requirements that water quality parameter analyses may be performed in an approved lab, as contrasted with an accredited lab, as contained in repealed §290.117(l)(1), and adopts the requirements of 40 CFR §141.89(a)(1)(i) - (iv) by reference. New §290.117(h)(4)(C) is adopted to establish that in order for any grandfathered data to be used, that data must have been analyzed using the methods referenced in this subsection, consistent with the federal requirements of 40 CFR §141.89(a)(2).

New §290.117(i) is adopted to contain reporting requirements, consistent with the repealed state rules, the federal rules under 40 CFR §141.80(i), and various parts of 40 CFR Part 141, Subpart I. New §290.117(i)(1) is adopted to contain requirements for reporting lead and copper tap sample results contained in repealed §290.117(m)(1)(B), consistent with the federal requirements of 40 CFR §141.90(a)(1) and (1)(i) and (h) and (h)(1). New §290.117(i)(1)(A) is adopted to contain the requirement that invalidation requests be submitted in writing, as required under the federal rule in 40 CFR §141.90(a)(1)(ii). New §290.117(i)(1)(B) is adopted to contain the requirements

EXHIBIT 1

for reporting tap sampling results, as in the federal rule in 40 CFR §141.90(h)(2); specifically, §290.117(i)(1)(B)(i) and (ii) are adopted to contain the federal requirements of 40 CFR §141.90(a)(1)(i) and (v), and (h)(2)(i) and (ii), respectively, requiring systems to report lead and copper tap sample sites used for sampling. New §290.117(i)(2) is adopted to specify that systems must report entry point lead and copper sample results, consistent with the federal rules under 40 CFR §141.90(b)(1).

New §290.117(i)(3) is adopted to contain the requirement that systems report water quality parameter results, as required under repealed §290.117(m)(1)(A), and under federal rules in 40 CFR §141.90(a), (a)(1), and (1)(viii). New §290.117(i)(3)(A) is adopted to list the distribution system water quality parameters that must be reported, consistent with the federal rule under 40 CFR §141.90(a)(1)(vi). New §290.117(i)(3)(B) is adopted to provide the reporting requirement for samples taken at entry points, consistent with the federal rule under 40 CFR §141.90(a)(1)(vii). New §290.117(i)(3)(C) is adopted to include the requirement of the federal rule under 40 CFR §141.90(a)(5), that a system limiting entry point sampling must report germane information.

New §290.117(i)(4) is adopted to contain requirements for reporting distribution material and sample site data contained in repealed §290.117(b)(1) and (2). New §290.117(i)(4)(A) is adopted to contain the reporting requirements related to lead and copper tap sampling sites, as contained in repealed §290.117(b)(1), consistent with the federal rule under 40 CFR §141.86(a)(1). New §290.117(i)(4)(B) is adopted to contain the requirement that a system must report documentation to ensure the absence of lead and copper materials in order to be considered for a nine-year tap sampling waiver, consistent with the federal requirements of 40 CFR §141.90(a)(4)(i). New §290.117(i)(4)(B)(i) - (iii) is adopted to contain the federal rule requirements in 40 CFR §141.90(a)(4)(i) - (iii), respectively, describing reporting requirements for systems seeking nine-year waivers for lead and copper tap sampling. New §290.117(i)(4)(C) is adopted to contain the requirement of repealed §290.117(m)(1)(G) related to changes in sample sites, consistent with the federal requirements of 40 CFR §141.90(a)(1)(v).

New §290.117(i)(5) is adopted to contain the reporting requirements related to public education, as contained in repealed §290.117(i)(1) and (m)(1)(F), consistent with 40 CFR §141.85 and §141.90(f). New §290.117(i)(6) is adopted to contain the specific requirements for reporting consumer notification activities, consistent with the federal requirements of 40 CFR §§141.80(g), 141.85(d) and (d)(1), and 141.90(f)(3).

New §290.117(i)(7) is adopted to contain the reporting requirements related to corrosion control studies and treatment, as contained in repealed §290.117(m)(1)(H), consistent with the federal requirements of 40 CFR §141.90(c). New §290.117(i)(7)(A) is adopted to require systems to provide documentation demonstrating optimization of corrosion control treatment, as contained in repealed §290.117(m)(1)(H)(i), consistent with the federal requirements of 40 CFR §141.90(c)(1). New §290.117(i)(7)(B) is adopted to contain the requirements of repealed §290.117(m)(1)(H)(ii) that systems report information related to recommending optimal corrosion control treatment, consistent with the federal requirements of 40 CFR §141.82(a) and §141.90(c)(2). New §290.117(i)(7)(C) is adopted to contain the reporting requirements of repealed §290.117(m)(1)(H)(iv) for systems evaluating the effectiveness of corrosion control treatments consistent with the federal requirements of 40 CFR §141.82(a) and §141.90(c)(3). New §290.117(i)(7)(D) is adopted to contain the requirements of repealed §290.117(m)(1)(H)(iii) for systems required to install optimal corrosion control, consistent with the federal rules in 40 CFR §141.90(c)(4).

New §290.117(i)(8) is adopted to contain the source water treatment reporting requirements contained in repealed §290.117(m)(1)(D), consistent with the federal rules in 40 CFR §141.90(d), (d)(1) and (2).

New §290.117(i)(9) is adopted to contain reporting requirements related to documentation of system conditions and facility changes. New §290.117(i)(9)(A) is adopted to contain the requirements related to reporting changes related to the use and treatment at entry points, contained in repealed §290.117(h)(1)(M), and consistent with the federal requirements in 40 CFR §141.90(a)(3). New §290.117(i)(9)(B) is adopted to require systems to submit documentation related to treatment changes, as contained in the federal rule under 40 CFR §141.90(a)(3). New §290.117(i)(10) is adopted to provide the timing for reporting extra sample data, as contained in the federal rules under 40 CFR §141.90(g). New §290.117(i)(11) is adopted to contain reporting requirements for lead service line replacement contained in repealed §290.117(m)(1)(E), consistent with the federal rules in 40 CFR §141.84 and §141.90(e).

New §290.117(j) is adopted to require that public water systems must provide consumers with a notice of lead tap sampling results if their homes are tested, as contained in the new federal LCSTR requirements of 40 CFR §141.80(g) and §141.85. New §290.117(j)(1) - (3) is adopted to contain provisions of the new federal LCSTR rules under 40 CFR §141.85(d)(2) - (4), respectively. New §290.117(j)(1) is adopted to contain the timing of consumer notification under the federal rule in 40 CFR §141.85(d)(2); new §290.117(j)(2) is adopted to contain the required content of consumer notification as provided under the federal rule in 40 CFR §141.85(d)(3); and new §290.117(j)(3) is adopted to contain the requirements for delivery of consumer notification as provided under the federal rule in 40 CFR §141.85(d)(4).

New §290.117(k) is adopted to contain the reporting requirements for public education as contained in repealed §290.117(i), consistent with the federal requirements of 40 CFR §141.85 and §141.80(g). New §290.117(k)(1) is adopted to contain the required content of public education reporting requirements as contained in 40 CFR §141.85(a)(1). New §290.117(k)(1)(A) is adopted to contain the required heading language alerting consumers to the issue of lead in drinking water, in accordance with the federal requirements of 40 CFR §141.85(a)(1)(i), consistent with the requirements in repealed §290.117(i)(2)(A). New §290.117(k)(1)(B) is adopted to contain the mandatory health effects language regarding lead in drinking water that must be contained in any public education materials, as contained in the federal rule under 40 CFR §141.85(a)(1)(ii). New §290.117(k)(1)(C) is adopted to contain the requirement that a system performing public education must provide information regarding lead and the possible sources of lead, as contained in the federal rule under 40 CFR §141.85(a)(1)(iii). New §290.117(k)(1)(C)(i) - (iii) is adopted to contain the requirements of 40 CFR §141.85(a)(1)(iii)(A) - (C) providing that public education materials must explain what lead is, explain possible sources, and discuss other risks of lead exposure, specifically lead-based paint or lead-contaminated soils.

New §290.117(k)(1)(D) is adopted to contain the federal requirements of 40 CFR §141.85(a)(1)(iv) that public education materi-

EXHIBIT 1

als must discuss the steps consumers can take to reduce their exposure to lead in drinking water. New §290.117(k)(1)(D)(i) - (v) is adopted to contain the federal requirements of 40 CFR §141.85(a)(1)(ii)(A) - (E), respectively, that public education materials should encourage running the water to flush out the lead, explain that customers should not use hot water to prepare baby formula, explain that boiling water will not help lead levels, discuss the use of alternate water sources, and suggest that parents have children's blood lead levels tested. New §290.117(k)(1)(E) is adopted to contain the federal requirement under 40 CFR §141.85(a)(1)(v) providing that public education materials must explain why there are elevated levels of lead in the system's drinking water (if known) and what the water system is doing to reduce the lead levels in homes and buildings in this area. New §290.117(k)(1)(F) is adopted to contain the mandatory language regarding web resources, as required under the federal rule in 40 CFR §141.85(a)(1)(vi). New §290.117(k)(1)(G) is adopted to contain additional requirements for community systems' public education materials, as contained in the federal rules under 40 CFR §141.85(a)(2). Specifically, §290.117(k)(1)(G)(i) and (ii) is adopted to contain the requirement that community systems' public education materials tell consumers how to get their water tested, and discuss lead in plumbing components and the difference between low lead and lead free, as contained in the federal rules under 40 CFR §141.85(a)(2)(i) and (ii), respectively, consistent with the requirements of repealed §290.117(i)(5). New §290.117(k)(1)(H) is adopted to contain the multilingual requirements for public education materials contained in the federal rules under 40 CFR §141.85(b)(1).

New §290.117(k)(2) is adopted to contain the delivery requirements for public education materials for community systems, as required by the federal rules under 40 CFR §141.85(b). New §290.117(k)(2)(A) is adopted to contain the requirement that a community system must directly deliver printed public education materials to all bill paying customers, consistent with the requirements of repealed §290.117(i)(2)(A), and consistent with the federal rule under 40 CFR §141.85(b)(2)(i). New §290.117(k)(2)(A)(i) is adopted to contain the requirement that community systems deliver public education materials to local public health agencies, as required under the federal rule in 40 CFR §141.85(b)(2)(ii)(A). New §290.117(k)(2)(A)(ii) is adopted to reference the list of at-risk customers that community systems must deliver public education materials to, as required by the federal rule under 40 CFR §141.85(b)(2)(ii)(B). Section 290.117(k)(2)(A)(ii) is also adopted to list the required institutional customers for public education, as provided in the federal rules in 40 CFR §141.85(b)(2)(ii)(B)(-1-) - (-6-), consistent with the rules in repealed §290.117(i)(2)(C). New §290.117(k)(2)(A)(iii) is adopted to contain the requirements contained in the federal rules under 40 CFR §141.85(b)(2)(ii)(C) that community systems must make a good faith effort to locate potentially at-risk organizations and deliver public education materials to them. Section 290.117(k)(2)(A)(iii) is also adopted to list the potentially at-risk customers listed in the federal rules under 40 CFR §141.85(b)(2)(ii)(C)(-1-) - (-3-). New §290.117(k)(2)(A)(iv) is adopted to contain the federal requirements for additional public activities under 40 CFR §141.85(b)(2)(vi). Section 290.117(k)(2)(A)(iv) is also adopted to list the additional activity requirements of the federal rule under 40 CFR §141.85(b)(2)(vi)(A) - (I). New §290.117(k)(2)(A)(v) is adopted to contain the requirement that community water systems provide public education information on water bills at least quarterly, as long as the system exceeds the lead action level, as required in the federal rule under 40 CFR §141.85(b)(2)(iii). New §290.117(k)(2)(A)(vi) is adopted to contain the federal requirement under 40 CFR §141.85(b)(2)(iv) that a community system serving more than 100,000 people must post public education materials on the water system's Web site. New §290.117(k)(2)(A)(vii) is adopted to contain the federal requirement under 40 CFR §141.85(b)(2)(v) that community systems must submit a press release to newspaper, television, and radio stations.

New §290.117(k)(2)(B) is adopted to contain the provision of the federal rule under 40 CFR §141.85(b)(8) that a small community water system serving 3,300 or fewer people may be allowed to limit certain aspects of their public education programs. New §290.117(k)(2)(B)(i) is adopted to contain the provision of the federal rule under 40 CFR §141.85(b)(8)(ii) that a small system may be allowed to deliver public education materials to only those potentially affected customers that are most likely to be visited regularly by pregnant women and children. New §290.117(k)(2)(B)(ii) is adopted to contain the federal provisions under 40 CFR §141.85(b)(8)(iii) that a small system may be allowed to waive press releases. New §290.117(k)(2)(B)(iii) is adopted to contain the federal provisions under 40 CFR §141.85(b)(8)(i) that a small system may be allowed to perform only one of the required additional activities instead of all three activities.

New §290.117(k)(2)(C) is adopted to contain the provisions of 40 CFR §141.85(b)(7) for certain community systems to limit their public education activities. New §290.117(k)(2)(C)(i) is adopted to specify that in order to limit these public education activities, the system must be a facility, such as a prison or a hospital, where the population served is not capable of or is prevented from making improvements to plumbing or installing point of use treatment devices as contained in the federal rule under 40 CFR §141.85(b)(7)(i). New §290.117(k)(2)(C)(ii) is adopted to specify that, in order to limit these public education activities, the system must provide water as part of the cost of services as provided by the federal rule under 40 CFR §141.85(b)(7)(ii).

New §290.117(k)(3) is adopted to contain the federal requirements of 40 CFR §141.85(b)(4) for delivery of public education materials by nontransient, noncommunity systems. New §290.117(k)(3)(A) is adopted to require that nontransient, noncommunity systems that exceed the lead action level must post informational posters as contained in the federal requirements under 40 CFR §141.85(b)(4)(i), consistent with the requirements of repealed §290.117(i)(3)(A). New §290.117(k)(3)(B) is adopted to require that these systems must distribute informational materials as contained in repealed §290.117(i)(3)(B), consistent with the requirements of 40 CFR §141.85(b)(4)(ii).

New §290.117(k)(4) is adopted to contain the frequency and timing requirements for public education, as contained in the federal rules under 40 CFR §141.85(b)(2) and (2)(vii), (4) and (4)(iii), consistent with the state rules in repealed §290.117(i)(2). New §290.117(k)(4)(A) is adopted to contain the required frequency and timing of public education activities for community systems, as provided by the federal rules under 40 CFR §141.85(b)(3). New §290.117(k)(4)(A)(i) is adopted to contain the requirement that community systems provide informational statements every billing cycle, as required under the federal rule in 40 CFR §141.85(b)(3)(ii). New §290.117(k)(4)(A)(ii) is adopted to contain the requirement that a community system serving a population greater than 100,000 shall post and retain material on a publicly accessible Web site, as required in the federal rules under

EXHIBIT 1

40 CFR §141.85(b)(3)(iii). New §290.117(k)(4)(A)(iii) is adopted to ensure that press releases be delivered twice a year, as provided by the federal rule under 40 CFR §141.85(b)(3)(iv).

New §290.117(k)(4)(B) is adopted to contain the required frequency and timing of public education activities for nontransient, noncommunity systems, as required by the federal rule under 40 CFR §141.85(b)(5). New §290.117(k)(4)(C) is adopted to allow a system to delay the start date for public education, as provided in the federal rules under 40 CFR §141.85(b)(5), consistent with the state rules in repealed §290.117(i)(3)(D). New §290.117(k)(4)(D) is adopted to contain the requirements for discontinuing public education, as contained in the federal rules under 40 CFR §141.85(b)(6), consistent with the state rules in repealed §290.117(i)(4).

New §290.117(k)(5) is adopted to contain the requirements for notifying the TCEQ of public education activities, as contained in the federal rules under 40 CFR §141.90(f)(1). New §290.117(k)(5)(A) is adopted to require documentation that the system has delivered public education materials that meet the content requirements, as contained in the federal rules under 40 CFR §141.90(f)(1)(i). New §290.117(k)(5)(B) is adopted to require that systems document notification efforts, as contained in the federal rules under 40 CFR §141.90(f)(1)(ii). New §290.117(k)(5)(C) is adopted to require that systems submit certifications of delivery each time that it distributes materials, as contained in the federal rules under 40 CFR §141.90(f)(2).

New §290.117(l) is adopted to summarize the manner in which the TCEQ shall determine whether a system is in compliance with this section, consistent with the rules in repealed §290.117(a)(2), and with the federal rules under 40 CFR §141.80(k). This is adopted to be subsequent to the subsection relating to public education, because the most serious violation identified by the EPA is a failure to perform public education.

New §290.117(l)(1) is adopted to contain the compliance calculations for the lead and copper tap samples, consistent with repealed §290.117(a)(3) and (d), and consistent with the federal requirements of 40 CFR §141.80(c)(3). New §290.117(l)(1)(A) is adopted to contain the calculation methods for determining the 90th percentile, consistent with repealed §290.117(d) and the federal requirements of 40 CFR §141.80(c)(3). New §290.117(l)(1)(A)(i) is adopted to describe ranking the samples in order of their analytical results, from lowest to highest, as contained in the federal rules under 40 CFR §141.80(c)(3)(i), consistent with repealed §290.117(a)(3). New §290.117(l)(1)(A)(ii) is adopted to contain the requirements of the federal rule under 40 CFR §141.80(c)(3)(ii) and (iii) to multiply the number of samples collected by 0.9 to yield a number corresponding to the order number of samples, and designating that sample's analytical result as the 90th percentile level for systems that serve 100 or more people, consistent with the repealed §290.117(a)(3). New §290.117(l)(1)(A)(iii) is adopted to contain the 90th percentile level calculation method for systems serving fewer than 100 people, which collect only five tap samples, as contained in the federal rule under 40 CFR §141.80(c)(3)(iv), consistent with repealed §290.117(a)(3). New §290.117(l)(1)(A)(iv) is adopted to contain the 90th percentile level calculation method for systems that have been allowed to collect fewer than five samples, as contained in the federal rule under 40 CFR §141.80(c)(3)(v). New §290.117(l)(1)(B) is adopted to ensure that invalidated sample results are not included in compliance calculations, as contained in the federal rule under 40 CFR §141.86(f) and consistent with the existing state rule under §290.117(f)(1). New §290.117(l)(1)(C) is adopted to ensure that the results of all valid samples are included in compliance calculations, as contained in the federal rule under 40 CFR §141.86(e), and consistent with repealed §290.117(c)(4). New §290.117(l)(1)(D) is adopted to provide a specific citation defining the conditions under which a system is in compliance, as contained in repealed §290.117(a)(3) and in the federal rule under 40 CFR §141.80(c)(1) and (2).

New §290.117(l)(2) is adopted to contain the compliance determination requirements for water quality parameters, as contained in repealed §290.117(h)(1)(K), consistent with the federal rules under 40 CFR §141.82(g). New §290.117(l)(2)(A) is adopted to specify the conditions under which a system is considered to have operated outside its approved optimal water quality parameter ranges as contained in 40 CFR §141.82(g), consistent with repealed §290.117(j)(1). New §290.117(l)(2)(A)(i) is adopted to specify that multiple water quality parameter samples in a single day be averaged for compliance determination, as contained in 40 CFR §141.82(g)(1), consistent with repealed §290.117(j)(1)(A). New §290.117(l)(2)(A)(ii) is adopted to specify that a single daily sample result will be used for compliance as contained in 40 CFR §141.82(g)(2), consistent with repealed §290.117(j)(1)(B). New §290.117(l)(2)(A)(iii) is adopted to specify that on days when no measurement is collected for the water quality parameter at the sampling location, the daily value last calculated on the most recent day shall serve as the daily value, as contained in the federal rule under 40 CFR §141.82(g)(3), consistent with repealed §290.117(j)(1)(C). New §290.117(l)(2)(B) is adopted to contain the timing for compliance determination for water quality parameters, as contained in the federal rule under 40 CFR §141.82(g), consistent with repealed §290.117(j)(1). New §290.117(l)(2)(C) is adopted to ensure that the results of all samples be considered as part of compliance determination, as contained in the federal rule under 40 CFR §141.87(f). New §290.117(l)(2)(D) is adopted to ensure that the results of sampling errors will not be used in compliance calculations, consistent with the federal rules under 40 CFR §141.82(g).

New §290.117(l)(3) is adopted to contain the compliance determination requirements related to installation of source water treatment as contained in the federal rule under 40 CFR §141.83(b)(5) and §141.88(a)(2). New §290.117(l)(4) is adopted to specify that failure to deliver public education materials is a public notification violation, consistent with the federal regulations under 40 CFR §141.85(a)(1) and repealed §290.117(i), in order to provide a clear citation for referencing any such violation in TCEQ procedures for initiation of any enforcement action. New §290.117(l)(5) is adopted to specify what constitutes monitoring and reporting violations, as contained in repealed §290.117(a)(2)(B), consistent with the federal rule under 40 CFR §141.80(k).

New §290.117(m) is adopted to adopt the lead service line replacement requirements of 40 CFR §141.84 and §141.90(e) by reference, consistent with repealed §290.117(k). Texas public water systems historically did not use lead pipe in distribution systems. Therefore, in the history of implementing the lead and copper rules in Texas, no public water systems have been required to perform lead service line replacement programs.

New §290.117(n) is adopted to contain the federal requirements of 40 CFR §§141.81(b)(3)(iii), 141.82(a), and 141.86(d)(4)(vii) specifying that the executive director has authority to require additional sampling as needed to determine whether systems are

EXHIBIT 1

maintaining minimal levels of corrosion in the distribution system.

The commission adopts the amendment to §290.119(a) and (a)(1), Analytical Procedures, to replace the term "certified" laboratory with the term "accredited" laboratory consistent with the existing state rule under 30 TAC §25.4(f) and to correct the reference to accurately reflect that analyses performed under other subchapters within this chapter must be analyzed using the methods and at laboratories of the types described herein. Further, the commission amends §290.119(a)(1) to add microbial contaminants as a type of sample that must be analyzed at an accredited laboratory, consistent with the existing requirement in §290.109(d), to ensure that all applicable samples are listed in this context. The commission amends §290.119(a)(1)(A), (B), (F), and (G) to spell out terms in their first use in this section. The commission amends §290.119(a)(2) to spell out the term "maximum residual disinfectant level" in its first use in this section. The commission amends §290.119(a)(2)(E) to specify that dissolved organic carbon is an analyte for which samples may be analyzed at an approved laboratory to maintain consistency between state and federal regulations. The commission also amends §290.119(a)(2)(E) and (b)(6) to remove the hyphen in the word "by-product" to be consistent with current federal usage standards. The commission amends §290.119(b)(8) to add dissolved organic carbon, which identifies acceptable EPA methods for analysis, to maintain consistency between state and federal regulations consistent with the federal rule in 40 CFR §141.131(d)(4)(i). In response to comment, §290.119(b)(10) is adopted, which adopts by reference the approved methods listed under federal rule language in 40 CFR Part 141, Subpart C, Appendix A.

The commission adopts §290.121(b)(1), Monitoring Plans, to remove the hyphen in the word "by-products" to be consistent with current federal usage standards. The commission also amends §290.121(b)(6) - (8) to correct references to meet agency syntax standards. The commission further amends §290.121(d)(1) to specify the date or conditions which, if not fulfilled, may cause a public water system to have a reporting violation for their monitoring plan. Additionally, the commission amends §290.121(e) to correct the reference for conditions triggering notification of a monitoring plan violation consistent with the federal rule in 40 CFR §141.153(f).

The commission adopts §290.122, Public Notification, to better establish public notification requirements for systems to follow when their drinking water fails to meet one of the drinking water standards. The commission amends §290.122(a), (a)(1), and (1)(G) to recognize that there may be situations defined by rule that require public notice, but that are not defined as violations. Specifically, fecal contamination of a well is not defined as a violation under the GWR. The commission amends §290.122(a)(1)(B)(iv) to replace the word "ready" with the word "reading" in order to correctly specify that the triggering event for public notice in this clause is an analytical reading over 1.0 Nephelometric turbidity units. The commission amends §290.122(a)(1)(F) and (b)(1)(C) and (D) to correct the rule reference therein to meet agency syntax standards. The commission amends §290.122(b)(2)(B) to allow noncommunity water systems other options for delivering non-acute and non-monitoring related public notices, in order to be consistent with the federal rules under 40 CFR §141.203(c)(2). The commission moves the requirement for direct delivery or continuous posting from §290.122(b)(2)(B) to adopted §290.122(b)(2)(B)(i). The commission adopts §290.122(b)(2)(B)(ii) to encompass other federally-specified delivery methods. The federal rule under 40 CFR §141.203(c)(2)(ii) requires the state to allow alternative methods of public notice delivery such as e-mail. The change is adopted to assure the state rules are no less stringent than the federal rules. Likewise, the commission amends §290.122(c)(2)(A) to specify that mail or other direct delivery must be used by community water systems for non-acute violations, consistent with the federal rule under 40 CFR §141.204(c)(1)(i), and that posting, mail, or other direct delivery must be used by noncommunity water systems for non-acute violations, consistent with the federal rule under 40 CFR §141.204(c)(2)(i). As adopted, the list of other delivery methods in the prior rule under §290.122(c)(2)(A) is moved to §290.122(c)(2)(B), consistent with the federal rule under 40 CFR §141.204(c)(1)(ii). The commission amends §290.122(c)(3)(B) to allow noncommunity systems to provide repeat public notices under in §290.122(c) at least every 12 months, consistent with federal rule under 40 CFR §141.204(b)(1). The commission amends §290.122(d)(1) to include the specifics of the federal requirements under 40 CFR §141.205(c)(1)(iii) that a system must not format their notification in a way that makes it hard to understand or defeats the purpose of the notice. The commission amends §290.122(d)(6) to specifically add the federal requirement of 40 CFR §141.205(a)(9) that each notice include the name and business address for contacting the water system. The commission adopts §290.122(d)(10) to include the consumer notification requirement of the federal LCSTR under 40 CFR §141.80(g) and §141.85(d) and the adopted state rule in §290.117(j). The commission amends §290.122(e) to include the ongoing notification requirement for noncommunity systems consistent with 40 CFR §141.206(b). The commission amends §290.122(g) to specify that notification be provided to the owner or operator of a public water system that receives and redistributes water from a system that is required to provide public notice, in accordance with the federal rule in 40 CFR §141.201(c)(1).

Subchapter H: Consumer Confidence Reports

Subchapter H contains the requirements for community water systems to deliver a report of drinking water quality, called a Consumer Confidence Report, to all of their customers annually. The commission adopts Subchapter H, Consumer Confidence Reports, to incorporate provisions of the federal rules. The commission adopts §290.271, Purpose and Applicability, by adding the definition of "detected" for contaminant groups to §290.271(c), consistent with the federal rule in 40 CFR §141.153(B). In response to comment, the words "equal to or" are added to the adopted rule in §290.271(c) in order to ensure that the adopted meaning of the term "detected" is the detection of a chemical at any level equal to or greater than the minimum detection level.

The commission adopts §290.272, Content of the Report. The commission amends §290.272(c)(1)(A) to add the word "and" and also amends §290.272(c)(1)(B) to add a period and remove "; and" to comply with agency numbering requirements for rules. Additionally, the commission amends §290.272(c)(1)(C) to remove a reference to nonexistent federal rules in 40 CFR §141.142 and §141.143. The commission amends §290.272(c)(3) to remove a reference to a nonexistent federal regulation, specifically the reference to information collection rules under 40 CFR §141.142 and §141.143. The commission amends §290.272(c)(4)(D)(iii) to include an opening phrase of "In accordance with date requirements included in the table entitled Date to Start Stage 2 Compliance," in order to provide a rule reference to the previous table in accordance with the

EXHIBIT 1

adopted state rule in §290.115(a)(2) and federal DBP2 rules under 40 CFR §141.153(B) and §141.64(b)(2). At adoption, the commission also amended §290.272(c)(4)(D)(iii) to remove the hyphen in the word "by-products" to instead refer to "byproducts" to be consistent with current federal usage standards. Additionally, the commission amends §290.272(e)(7) and (g)(1)(B)(iv) to remove the hyphen in the word "by-products" to be consistent with current federal usage standards. In response to comment, state regulations corresponding to the federal rule requiring lead-specific information in every Consumer Confidence Report which were inadvertently omitted from the proposed rules are included in adopted §290.272(g)(9). Specifically, §290.72(g)(9) is adopted, which states "Every report must include the following lead-specific information - a short informational statement about lead in drinking water and its effect on children." Additionally, §290.72(g)(9)(A) is adopted, which states "The statement must include the information set forth in this example statement. 'If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. NAME OF UTILITY is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.'" Additionally, §290.72(g)(9)(B) is adopted, which states "A system may write its own educational statement, but only in consultation with the executive director."

Final Regulatory Impact Analysis Determination

The commission reviewed the adopted rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the rulemaking is not subject to §2001.0225. A "major environmental rule" means a rule with a specific intent to protect the environment or reduce risks to human health from environmental exposure, and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state.

First, the adopted rulemaking does not meet the statutory definition of a "major environmental rule" because its specific intent is not to protect the environment or reduce risks to human health from environmental exposure. The specific intent of the adopted rulemaking is to incorporate changes in the federal drinking water regulations in order to maintain the state's primary enforcement responsibility with regard to drinking water. This is accomplished by enacting state rules no less stringent than the federal regulations and adopting adequate procedures for implementation and enforcement of these rules, while providing alternative approaches to compliance based in part on stakeholder input and taking into account special considerations related to the state's particular source water conditions. The federal regulations that would be implemented through the adopted rulemaking are designed to reduce risks to human health from environmental exposure by limiting exposure to lead and copper, microbial pathogens, and disinfection byproducts.

Second, the adopted rulemaking does not meet the statutory definition of a "major environmental rule" because the adopted rules would not adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. It is not anticipated that the cost of complying with the adopted rules will be significant with respect to the economy as a whole or with respect to a sector of the economy; therefore, the adopted rules will not adversely affect in a material way the economy, a sector of the economy, competition, or jobs.

Finally, the adopted rulemaking does not meet any of the four applicability requirements for a "major environmental rule" listed in Texas Government Code, §2001.0225(a). Texas Government Code, §2001.0225 only applies to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law. This adopted rulemaking does not meet any of the preceding four applicability requirements because this rulemaking: does not exceed any standard set by federal law for public water systems and is adopted to be consistent with federal rules; does not exceed any express requirement of state law under Texas Health and Safety Code (THSC), Chapter 341, Subchapter C; does not exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government, but rather is adopted to be consistent with applicable federal rules in order to allow the state to maintain its authority to implement the federal SDWA, pursuant to agreements between the commission and the EPA; and is not adopted solely under the general powers of the agency, but specifically under THSC, §341.031, which allows the commission to adopt and enforce rules to implement the federal SDWA, as well as the other general powers of the commission.

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. No comments were received on the draft regulatory impact analysis determination.

Takings Impact Assessment

The commission evaluated this adopted rulemaking and performed an assessment of whether these adopted rules constitute a taking under Texas Government Code, Chapter 2007.

The commission adopts these rules for the specific purpose of maintaining the state's primary enforcement responsibility by incorporating federal drinking water regulations related to: 1) protecting public drinking water consumers from the risks of lead and copper in drinking water in response to the LCSTR, published by the EPA in the October 10, 2007, issue of the *Federal Register;* 2) providing increased public health protection from the risks of *Cryptosporidium* and other microbial pathogens in drinking water derived from surface water in response to the LT2 rule published by the EPA in the January 5, 2006, issue of the *Federal Register;* and 3) protecting public drinking water consumers from the risks of disinfectant byproducts in response to the DBP2 rule, published by the EPA in the January 4, 2006, issue of the *Federal Register.* In addition, the adopted rules correct typographical errors, formatting mistakes, incorrect references, and citation changes and make other non-substantive changes.

EXHIBIT 1

The commission's analysis indicates that Texas Government Code, Chapter 2007, does not apply to these adopted rules based upon exceptions to applicability in §2007.003(b). First, the adopted rulemaking is an action that is reasonably taken to fulfill an obligation mandated by federal law, Texas Government Code, §2007.003(b)(4). In order to maintain primacy over public drinking water, the state must enact rules no less stringent than the federal drinking water regulations as required by 40 CFR §142.10. Second, the adopted rulemaking is an action that is taken in response to a real and substantial threat to public health and safety; that is designed to significantly advance the public health and safety purpose; and that does not impose a greater burden than is necessary to achieve the public health and safety purpose, Texas Government Code, §2007.003(b)(13). Lead and copper, *Cryptosporidium* and other microbial pathogens, and drinking water disinfection byproducts all constitute a real and substantial threat to public health and safety when present at certain levels in drinking water, and require appropriate governmental regulation. The adopted rules significantly advance the public health and safety purpose by ensuring appropriate governmental regulation of these items, and do so in a way that does not impose a greater burden than is necessary to achieve the public health and safety purpose.

Further, the commission has determined that promulgation and enforcement of these adopted rules would be neither a statutory nor a constitutional taking of private real property. Specifically, there are no burdens imposed on private real property under the rule because the adopted rules neither relate to, nor have any impact on, the use or enjoyment of private real property, and there would be no reduction in property value as a result of these rules. The rules require public water systems to comply with drinking water standards protective of human health and the environment, and the rules bring those standards into concurrence with the corresponding federal regulations. Therefore, the adopted rules would not constitute a taking under Texas Government Code, Chapter 2007.

Consistency with the Coastal Management Program

The commission reviewed the adopted rules and found that they are neither identified in the Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(2) or (4), nor will they affect any action or authorization identified in the Coastal Coordination Act Implementation Rules, 31 TAC §505.11(a)(6). Therefore, the adopted rules are not subject to the Texas Coastal Management program.

The commission invited public comment regarding the consistency with the coastal management program during the public comment period. No comments were received on the coastal management program.

Public Comment

The commission held a public hearing on January 6, 2011. No comments were received at the public hearing. The comment period opened on December 10, 2010, and closed on January 14, 2011.

The commission received written comments during the comment period from the City of Houston (Houston) and the EPA, both of whom suggested specific changes. Houston generally supported the rule. The EPA submitted comments related to cross-referencing the federal regulations with the state regulations. The two agencies routinely use a crosswalk format to check cross-references; therefore, the commission has addressed the EPA's cross-referencing comments by providing revised crosswalks to the EPA.

Response Comments

Comment

The EPA recommended changes to 30 TAC §25.50, specifically providing up-to-date references to the Manual for the Certification of Laboratories Analyzing Drinking Water, Fifth Edition, EPA 815-R-05-004, January 2005, and the Supplement to the Fifth Edition of the Manual for the Certification of Laboratories Analyzing Drinking Water, EPA 815-F-08-006, June 2008, to ensure consistency with 40 CFR §141.131(b)(2).

Response

The commission responds that 30 TAC §25.50 no longer references these manuals, and notes that 30 TAC §25.50 is outside the scope of this rulemaking. Therefore, the commission respectfully disagrees, and no change has been made in response to this comment.

Comment

Houston commented that the proposed rule language under §290.39(j)(1)(G) extended the requirements of 40 CFR §141.86(g) that small systems notify the agency of lead and copper-containing material within 60 days to large systems, which is more stringent than the federal regulation.

Response

The commission agrees with the comment and in response has amended the adopted rule to remove the large system notification requirement from adopted §290.39(j)(1)(G). The requirement for small systems to notify the TCEQ of addition of lead or copper material in their distribution system remains under adopted §290.117(c)(2)(D)(vi).

Comment

The EPA recommended a change to ensure consistency with the federal rule under 40 CFR §141.33(f) relating to the required retention time for source water monitoring plans relating to LT2. The federal rule states that these source water monitoring plans must be retained for three years after bin classification. The EPA recommended that the commission modify §290.46(f)(3)(B)(vi) to say "the raw surface water monitoring results and source water monitoring plans related to §290.111 of this title (relating to Surface Water Treatment: LT2 ESWTR) must be retained for three years after bin classification." The EPA commented that inserting the reference in §290.111 to source water monitoring plans would ensure the Texas regulations are at least as stringent as federal regulations.

Response

The commission agrees with the comment in general. However, the requirements for record retention are contained in §290.46, not in §290.111. Therefore, in response to comment, the phrase "and source water monitoring plans required by §290.111 of this title (relating to Surface Water Treatment)" is added to §290.46(f)(3)(B)(vi) in the adopted rule language. Specifically, adopted §290.46(f)(3)(B)(vi) requires that "the raw surface water monitoring results and source water monitoring plans required by §290.111 of this title (relating to Surface Water Treatment) must be retained for three years after bin classification required by §290.111 of this title."

Comment

EXHIBIT 1

Houston commented that proposed §290.46(f)(3)(F), which required attaching the tap water monitoring results, including the location of each site and date of collection; certification of the volume and validity of first-draw-tap sample criteria via a copy of the laboratory analysis request form; where residents collected the sample; certification that the water system informed the resident of proper sampling procedures; the analytical results for lead and copper concentrations at each tap sample site; and designation of any substitute site not used in previous monitoring periods to the monitoring plan, was excessive.

Response

The commission agrees with the comment that attaching such records to monitoring plans is not necessary. In response to this comment, the commission has removed this requirement from §290.46(f)(3)(F) in the adopted rule. Adopted §290.46(f)(3)(F) no longer contains the sentence "These records shall be attached to the system's monitoring plan," and reads in full "A public water system shall maintain records relating to lead and copper requirements under §290.117 of this title (relating to Regulation of Lead and Copper) for no less than 12 years. Any system subject to the requirements of §290.117 of this title shall retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, executive determinations, and any other information required by the executive director under §290.117 of this title. These records include, but are not limited to, the following items: tap water monitoring results including the location of each site and date of collection; certification of the volume and validity of first-draw-tap sample criteria via a copy of the laboratory analysis request form; where residents collected the sample; certification that the water system informed the resident of proper sampling procedures; the analytical results for lead and copper concentrations at each tap sample site; and designation of any substitute site not used in previous monitoring periods."

Comment

The EPA commented that changes were needed to proposed §290.112(a) to ensure consistency with 40 CFR §141.132(b)(1)(iii) under the DBP2. The EPA indicated that the proposed Texas regulation of §290.112(a) was not as stringent as the federal regulations. The EPA recommended that Texas either delete the verbiage of "and use sedimentation and clarification facilities as part of the treatment process" or modify the verbiage to "and use coagulation or flocculation or sedimentation or clarification facilities as part of the treatment process" in order to meet the stringency of the federal rules.

Response

The commission agrees with the comment. In response to this comment §290.112(a) is amended in the adopted version to include coagulation and flocculation as well as sedimentation and clarification. Specifically, adopted §290.112(a) reads "Applicability. All community and nontransient, noncommunity public water systems that treat surface water or groundwater under the direct influence of surface water and use coagulation or flocculation or sedimentation or clarification facilities as part of the treatment process must meet the provisions of this section."

Comment

The EPA recommended revision of the figure in §290.113(a)(2) for the purpose of clarity by adding the phrase "of any population" to form the phrase "Consecutive system or wholesale system of any population that is part of the combined distribution system."

Response

The commission agrees with the comment. In response to the comment the recommendation is incorporated in the adopted language of the figure in §290.113(a)(2). The phrase "of any population" is added to the heading of the schedule for systems in a combined distribution system, since without that placement the rule could imply that the generality of population applies only to the wholesale system.

Comment

The EPA commented that changes were needed to proposed §290.113 to ensure consistency with 40 CFR §141.132(b)(1)(iii). The EPA recommended Texas modify §290.113(c)(4)(B) and (C) by inserting the verbiage "...may remain on reduced monitoring as long as it meets the requirements in paragraph (4)(D) and as long as TTHM and HAA5..." for clarity.

Response

The commission agrees with the comment. In response to this comment the recommended verbiage is added to the adopted rule, so that the adopted language in §290.113(c)(4)(B) is "A system that is on reduced monitoring and collects quarterly samples for TTHM and HAA5 may remain on reduced monitoring as long as the running annual average of quarterly averages for TTHM and HAA5 is no greater than 0.060 mg/L and 0.045 mg/L, respectively, and as long as it meets the requirements in subparagraph (D) of this paragraph." Likewise, the adopted language in §290.113(c)(4)(C) is "A system that is on reduced monitoring and monitors no more frequently than once each year may remain on reduced monitoring as long as TTHM and HAA5 concentrations are no greater than 0.060 mg/L and 0.045 mg/L, respectively, and as long as it meets the requirements in subparagraph (D) of this paragraph."

Comment

The EPA commented that the Texas regulation under proposed §290.113(c)(6) was not as stringent as the federal regulations under 40 CFR §141.132(b)(1)(iv). The EPA recommended that the TCEQ clarify that "The system must being *(sic)* monitoring quarterly in the quarter immediately following the monitoring period..." in which an exceedance occurs.

Response

The commission agrees with the comment. The commission responds that the word "immediately" has been added to adopted §290.113(c)(6) in response to this comment.

Comment

The EPA commented that, for clarity, §290.115(a)(2) should be modified by inserting the statement "Systems must complete the monitoring plan for the additional Stage 2 TTHM and HAA5 requirements according to §290.121 before the date shown in the table entitled "Date to Start Stage 2 Compliance" in order to insure consistent stringency with federal rules in 40 CFR §141.622(a)(1)."

Response

The commission agrees with the comment. In response to this comment, the recommended language is included in the adopted rule under §290.115(a)(3), which reads "Systems must complete their monitoring plan for the additional Stage 2 TTHM and HAA5 requirements according to §290.121 of this title (relating to Monitoring Plans) before the date shown in the table entitled *Date to Start Stage 2 Compliance."*

EXHIBIT 1

Comment

The EPA recommended revision of the figure in §290.115(a)(2) for the purpose of clarity by adding the phrase "of any population" to form the phrase "Consecutive system or wholesale system of any population that is part of the combined distribution system."

Response

The commission agrees with the comment. In response to this comment the recommendation is incorporated in the adopted language under §290.115(a)(2), but the phrase "of any population" is added to the heading of the schedule for systems in a combined distribution system, since without clarification the rule could imply that the generality of population applies only to the wholesale system.

Comment

The EPA commented that a colon should be inserted after the phrase "Systems in a combined distribution system" in the figure in §290.115(a)(2) to ensure clarity under 40 CFR §141.620. As proposed, the EPA believed that the Texas rule could be misconstrued in two ways. First, that the extension is only available to systems part of a combined distributions system. Second, that the extension applies to both monitoring and maximum contaminant level (MCL) DBP2 requirements when there is only an extension for the operational evaluation level and DBP2 MCL requirements. Monitoring must still occur.

Response

The commission agrees with the comment. In response to this comment a colon has been inserted into the adopted figure in §290.115(a)(2) as recommended.

Comment

The EPA recommended that the commission revise Footnote 1 in the figure in §290.115(a)(2) to say "For compliance with TTHM and HAA5 MCLs and operational evaluation levels, the executive director may grant up to a 24-month extension to the compliance dates shown in this table if a water system requires capital improvements to comply with the MCL." The EPA requested that the commission provide clarification that any system that receives an extension must comply with the TTHM and HAA5 MCL requirements based on the running annual average until the water system's extension expires and the system begins calculating compliance based on the locational running annual average. The EPA cited 40 CFR §141.620 as the basis for its recommendation, and indicated that the Texas regulations would not be as stringent as the federal regulations without this clarification.

Response

The commission agrees that the referenced footnote in the figure in §290.115(a)(2) erroneously refers to 40 CFR §141.620(c)(5). The correct reference is 40 CFR §141.620(c), which has its own footnote reading, "The State may grant up to an additional 24 months for compliance with MCLs and operational evaluation levels if you require capital improvements to comply with an MCL." Therefore, in response to this comment the commission has corrected the footnote in the figure in §290.115(a)(2) to adopt the footnote in 40 CFR §141.620(c). The state rule with this correction is no less stringent than the federal rule.

Comment

The EPA commented that the Texas regulations under §290.115(c)(2) and (5)(C)(iii)(IV), which references §290.115(c)(1), are not as stringent as the federal regulations under 40 CFR §141.605(b). The EPA commented that Texas did not allow itself the flexibility to choose different or additional monitoring locations and that the commission must retain this authority in order to be as stringent as the federal rule.

Response

The commission agrees with the comment. The commission responds that the referenced authority is retained in adopted §290.115(c), which reads "Monitoring requirements for TTHM and HAA5. Monitoring shall be performed at locations and frequency specified in the system's monitoring plan as approved by the executive director. The executive director may require changes to a system's sampling locations. The executive director may require sampling at additional sampling locations." In response to this comment the last two sentences are added to adopted §290.115(c) to retain the executive director's authority over the number and location of sampling locations.

Comment

The EPA commented that the Texas regulations in the figure in §290.115(c)(2) are not as stringent as the federal regulations under 40 CFR §141.621(a)(2). The EPA recommended that the TCEQ remove superscript #3 for groundwater systems serving 500 to 9,999 persons. This set of water systems is required to take dual samples at each of the 2 monitoring sites under the federal rules.

Response

The commission agrees with the comment. The commission responds that the superscript is deleted from column three, "Routine Number of Sites[5]" under "Groundwater - 500 to 9,999."

Comment

The EPA recommends for clarity that the TCEQ modify §290.115(c)(3) by inserting the phrase "Monitoring may be reduced when..." and the phrase "and when the water system meets the requirements of §290.115(c)(3)(B)(iii)," to implement the federal rule in 40 CFR §141.623(b).

Response

The commission respectfully disagrees with the comment. The commission responds that the hierarchical nature of regulatory language ensures that the subordinate requirements of §290.115(c)(3)(B)(iii) are implicitly required by §290.115(c)(3) and that the recommended language would be redundant. No change has been made in response to this comment.

Comment

The EPA commented that the Texas regulations in the figure in §290.115(c)(5)(C)(ii)(V), including footnote 2, are not as stringent as the federal regulations under 40 CFR §141.601(b)(1). The EPA recommended that the commission insert the #2 superscript beside the table column heading "Sampling Frequency and Timing" to reference the footnote about monitoring during the peak historical month.

Response

The commission agrees with the comment. In response to this comment the commission added the footnote to the column heading and reworded footnote 2.

Comment

The EPA commented that the proposed Texas regulations under §290.115(c)(5)(A) - (C); §290.115(c)(5)(B)(iii) and (D) are not

EXHIBIT 1

as stringent as federal regulations under 40 CFR §141.60(d) because the term "peak historical month" is not defined by the TCEQ. The EPA recommended that the commission revise Texas regulations to define that the peak historical month as the month with the highest TTHM or HAA5 levels or the warmest water temperature month.

Response

The commission agrees with the comment. In response to this comment the recommended language has been added to the figure in §290.115(c)(5)(C)(ii)(V) footnote 2, specifically stating that "The peak historical month is the month with the highest TTHM or HAA5 levels or the warmest water temperature month. Monitoring must be conducted during the peak historical month for TTHM levels or HAA5 levels. Available compliance, study, or operational data must be reviewed to determine the peak historical month for TTHM or HAA5 levels."

Comment

The EPA commented that changes to §290.115 are required to ensure consistency with 40 CFR §141.64(b)(2)(iii) under DBP2. The EPA requested that the TCEQ revise the proposed Texas regulations to incorporate the best available technology listed in 40 CFR §141.64(b)(2)(iii), noting that this is missing from the Texas regulations. The EPA commented that, as written, the Texas regulations are less stringent than the federal requirements.

Response

The commission agrees with the comment. In response to this comment the reference to 40 CFR §141.64(b)(2)(iii) has been added to adopted §290.115(h). With the addition of the reference to 40 CFR §141.64(b)(2)(iii), the adopted rule states "Best available technology for TTHM and HAA5. Best available technology for treatment of violations of MCLs in subsection (b) of this section are listed in 40 CFR §141.64(b)(2)(ii) and (iii)."

Comment

Houston requested information regarding whether the definition and requirements related to optimal water quality parameters under §290.117 were consistent with the existing rules or were new requirements.

Response

The commission notes that this comment does not recommend any change to the adopted rule. The commission responds that the requirements are not changed, that they are part of the existing federal requirements of previous lead and copper rules, and are the same as existing state rules. No change has been made in response to this comment.

Comment

The EPA recommended changes to §290.119 to ensure consistency with 40 CFR §141.131(a)(2) related to EPA's expedited Method Approval process, under which there are a number of drinking water analytical methods that have been finalized and approved by EPA for compliance. The EPA commented that some of these methods are missing from Texas regulations. The EPA recommended that the TCEQ add a citation equivalent to "If a method is not contained in the §290.119, a drinking water quality method can be approved for analysis if it is listed in Appendix A to Subpart C in Title 40 CFR 141." Additionally, the EPA commented that Texas drinking water regulations do not explicitly allow for the use of on-line (continuous) chlorine analyzers for the monitoring of free and total chlorine except through their "alternative technology" approval process. EPA suggested that TCEQ consider adopting EPA's approved method 334.0 ("ChloroSense") as well as all of "Appendix A to Subpart C of Part 141-Alternative Testing Methods Approved for Analyses Under the Safe Drinking Water Act." The EPA stated that this adoption would especially be important under the GWR for water systems required to provide 4-log treatment for viruses prior to the "first customer" which, for larger systems, means continuous monitoring for a chlorine or chloramine disinfectant residual is required.

Response

The commission agrees with this comment and in response has adopted §290.119(b)(10), which adopts the approved methods under 40 CFR Part 141, Subpart C, Appendix A by reference. Adopted §290.119(b)(10) reads in full "if a method is not contained in this section, a drinking water quality method can be approved for analysis if it is listed in 40 CFR Part 141, Subpart C, Appendix A." In order to ensure that the rule language meets the syntax standards for lists, the final period in §290.119(b)(9) has been struck and a semicolon followed by the word "and" has been added.

Comment

The EPA commented that the Texas regulation under §290.271(c) is not as stringent as the federal regulations under 40 CFR §141.151(d). The EPA requested that the TCEQ clarify that "detected" means at any level equal to or greater than the minimum detection limit.

Response

The commission agrees with the comment. In response to this comment the words "equal to or" are added to the adopted rule in §290.271(c). In its adopted form, §290.271(c) reads "For the purposes of this section, the term "detected" shall mean the detection of a chemical at any level equal to or greater than the minimum detection level."

Comment

The EPA commented that changes to the state rules are needed to ensure consistency with 40 CFR §141.154(d)(1) which amends the lead information to be reported in the consumer confidence report.

Response

The commission agrees with the comment that a state regulation corresponding to the federal rule requiring lead-specific information in every Consumer Confidence Report was inadvertently omitted from the proposed rules. In response to this comment the commission amended the adopted rules to include the federal requirements in adopted §290.272(g)(9). Specifically, §290.272(g)(9) is adopted, which states "Every report must include the following lead-specific information - a short informational statement about lead in drinking water and its effect on children." Additionally, §290.272(g)(9)(A) is adopted, which states "The statement must include the information set forth in this example statement. 'If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. NAME OF UTILITY is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for

EXHIBIT 1

several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at *http://www.epa.gov/safewater/lead.'"* Additionally, §290.272(g)(9)(B) is adopted, which states "A system may write its own educational statement, but only in consultation with the executive director."

SUBCHAPTER D. RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS

30 TAC §§290.38, 290.39, 290.41, 290.42, 290.46, 290.47

STATUTORY AUTHORITY

The amendments are adopted under Texas Water Code (TWC), §5.102, which establishes the commission's general authority necessary to carry out its jurisdiction; §5.103, which establishes the commission's general authority to adopt rules; §5.105, which establishes the commission's authority to set policy by rule; and Texas Health and Safety Code (THSC), §341.031, which allows the commission to adopt rules to implement the federal Safe Drinking Water Act, 42 United States Code, §§300f to 300j-26; and THSC, §341.0315, which requires public water systems to comply with commission rules adopted to ensure the supply of safe drinking water.

The adopted amendments implement TWC, §§5.102, 5.103, and 5.105, and THSC, §341.031 and §341.0315.

§290.39. General Provisions.

(a) Authority for requirements. Texas Health and Safety Code (THSC), Chapter 341, Subchapter C prescribes the duties of the commission relating to the regulation and control of public drinking water systems in the state. The statute requires that the commission ensure that public water systems: supply safe drinking water in adequate quantities, are financially stable and technically sound, promote use of regional and area-wide drinking water systems, and review completed plans and specifications and business plans for all contemplated public water systems not exempted by THSC, §341.035(d). The statute also requires the commission be notified of any subsequent material changes, improvements, additions, or alterations in existing systems and, consider compliance history in approving new or modified public water systems. Texas Water Code (TWC), Chapter 13, Subchapter E, §13.1395, prescribes the duties of the commission relating to standards for emergency operations of affected utilities. The statute requires that the commission ensure that affected utilities provide water service as soon as safe and practicable during an extended power outage following the occurrence of a natural disaster.

(b) Reason for this subchapter and minimum criteria. This subchapter has been adopted to ensure regionalization and area-wide options are fully considered, the inclusion of all data essential for comprehensive consideration of the contemplated project, or improvements, additions, alterations, or changes thereto and to establish minimum standardized public health design criteria in compliance with existing state statutes and in accordance with good public health engineering practices. In addition, minimum acceptable financial, managerial, technical, and operating practices must be specified to ensure that facilities are properly operated to produce and distribute safe, potable water.

(c) Required actions and approvals prior to construction. A person may not begin construction of a public drinking water supply system unless the executive director determines the following requirements have been satisfied and approves construction of the proposed system.

(1) A person proposing to install a public drinking water system within the extraterritorial jurisdiction of a municipality; or within 1/2-mile of the corporate boundaries of a district, or other political subdivision providing the same service; or within 1/2-mile of a certificated service area boundary of any other water service provider shall provide to the executive director evidence that:

(A) written application for service was made to that provider; and

(B) all application requirements of the service provider were satisfied, including the payment of related fees.

(2) A person may submit a request for an exception to the requirements of paragraph (1) of this subsection if the application fees will create a hardship on the person. The request must be accompanied by evidence documenting the financial hardship.

(3) A person who is not required to complete the steps in paragraph (1) of this subsection, or who completes the steps in paragraph (1) of this subsection and is denied service or determines that the existing provider's cost estimate is not feasible for the development to be served, shall submit to the executive director:

(A) plans and specifications for the system; and

(B) a business plan for the system.

(4) Emergency Preparedness Plan for Public Water Systems that are Affected Utilities.

(A) Each public water system that is also an affected utility, as defined by §290.38(1) of this title (relating to Definitions), is required to submit to the executive director, receive approval for, and adopt an emergency preparedness plan in accordance with §290.45 of this title (relating to Minimum Water System Capacity Requirements) using either the template in Appendix J of §290.47 of this title (relating to Appendices) or another emergency preparedness plan that meets the requirements of this section. Emergency preparedness plans are required to be prepared under the direction of a licensed professional engineer when an affected utility has been granted or is requesting an alternative capacity requirement in accordance with §290.45(g) of this title, or is requesting to meet the requirements of TWC, §13.1395, as an alternative to any rule requiring elevated storage, or as determined by the executive director on a case by case basis.

(B) Each affected utility that supplies, provides, or conveys surface water to wholesale customers shall include in its emergency preparedness plan under subparagraph (A) of this paragraph provision for the actual installation and maintenance of automatically starting auxiliary generators or distributive generation facilities for each raw water intake pump station, water treatment plant, pump station, and pressure facility necessary to provide water to its wholesale customers.

(C) The executive director shall review an emergency preparedness plan submitted under subparagraph (A) of this paragraph. If the executive director determines that the plan is not acceptable, the executive director shall recommend changes to the plan. The executive director must make its recommendations on or before the 90th day after the executive director receives the plan. In accordance with commission rules, an emergency preparedness plan must include one of the options listed in §290.45(h)(1)(A) - (H) of this title.

EXHIBIT 1

(D) Each affected utility shall install any required equipment to implement the emergency preparedness plan approved by the executive director immediately upon operation.

(E) The executive director may grant a waiver of the requirements for emergency preparedness plans to an affected utility if the executive director determines that compliance with this section will cause a significant financial burden on customers of the affected utility. The affected utility shall submit financial, managerial, and technical information as requested by the executive director to demonstrate the financial burden.

(d) Submission of plans.

(1) Plans, specifications, and related documents will not be considered unless they have been prepared under the direction of a licensed professional engineer. All engineering documents must have engineering seals, signatures, and dates affixed in accordance with the rules of the Texas Board of Professional Engineers.

(2) Detailed plans must be submitted for examination at least 30 days prior to the time that approval, comments or recommendations are desired. From this, it is not to be inferred that final action will be forthcoming within the time mentioned.

(3) The limits of approval are as follows.

(A) The commission's public drinking water program furnishes consultation services as a reviewing body only, and its licensed professional engineers may neither act as design engineers nor furnish detailed estimates.

(B) The commission's public drinking water program does not examine plans and specifications in regard to the structural features of design, such as strength of concrete or adequacy of reinforcing. Only the features covered by this subchapter will be reviewed.

(C) The consulting engineer and/or owner must provide surveillance adequate to assure that facilities will be constructed according to approved plans and must notify the executive director in writing upon completion of all work. Planning materials shall be submitted to the Texas Commission on Environmental Quality, Water Supply Division, MC 153, P.O. Box 13087, Austin, Texas 78711-3087.

(e) Submission of planning material. In general, the planning material submitted shall conform to the following requirements.

(1) Engineering reports are required for new water systems and all surface water treatment plants. Engineering reports are also required when design or capacity deficiencies are identified in an existing system. The engineering report shall include, at least, coverage of the following items:

(A) statement of the problem or problems;

(B) present and future areas to be served, with population data;

(C) the source, with quantity and quality of water available;

(D) present and estimated future maximum and minimum water quantity demands;

(E) description of proposed site and surroundings for the water works facilities;

(F) type of treatment, equipment, and capacity of facilities;

(G) basic design data, including pumping capacities, water storage and flexibility of system operation under normal and emergency conditions; and

(H) the adequacy of the facilities with regard to delivery capacity and pressure throughout the system.

(2) All plans and drawings submitted may be printed on any of the various papers which give distinct lines. All prints must be clear, legible and assembled to facilitate review.

(A) The relative location of all facilities which are pertinent to the specific project shall be shown.

(B) The location of all abandoned or inactive wells within 1/4-mile of a proposed well site shall be shown or reported.

(C) If staged construction is anticipated, the overall plan shall be presented, even though a portion of the construction may be deferred.

(D) A general map or plan of the municipality, water district, or area to be served shall accompany each proposal for a new water supply system.

(3) Specifications for construction of facilities shall accompany all plans. If a process or equipment which may be subject to probationary acceptance because of limited application or use in Texas is proposed, the executive director may give limited approval. In such a case, the owner must be given a bonded guarantee from the manufacturer covering acceptable performance. The specifications shall include a statement that such a bonded guarantee will be provided to the owner and shall also specify those conditions under which the bond will be forfeited. Such a bond will be transferable. The bond shall be retained by the owner and transferred when a change in ownership occurs.

(4) A copy of each fully executed sanitary control easement and any other documentation demonstrating compliance with §290.41(c)(1)(F) of this title (relating to Water Sources) shall be provided to the executive director prior to placing the well into service. Each original easement document, if obtained, must be recorded in the deed records at the county courthouse. Section 290.47(c) of this title includes a suggested form.

(5) Construction features and siting of all facilities for new water systems and for major improvements to existing water systems must be in conformity with applicable commission rules.

(f) Submission of business plans. The prospective owner of the system or the person responsible for managing and operating the system must submit a business plan to the executive director that demonstrates that the owner or operator of the system has available the financial, managerial, and technical capability to ensure future operation of the system in accordance with applicable laws and rules. The executive director may order the prospective owner or operator to demonstrate financial assurance to operate the system in accordance with applicable laws and rules as specified in Chapter 37, Subchapter O of this title (relating to Financial Assurance for Public Drinking Water Systems and Utilities), or as specified by commission rule, unless the executive director finds that the business plan demonstrates adequate financial capability. A business plan shall include the information and be presented in a format prescribed by the executive director. For community water systems, the business plan shall contain, at a minimum, the following elements:

(1) description of areas and population to be served by the potential system;

(2) description of drinking water supply systems within a two-mile radius of the proposed system, copies of written requests seeking to obtain service from each of those drinking water supply systems, and copies of the responses to the written requests;

EXHIBIT 1

(3) time line for construction of the system and commencement of operations;

(4) identification of and costs of alternative sources of supply;

(5) selection of the alternative to be used and the basis for that selection;

(6) identification of the person or entity which owns or will own the drinking water system and any identifiable future owners of the drinking water system;

(7) identification of any other businesses and public drinking water system(s) owned or operated by the applicant, owner(s), parent organization, and affiliated organization(s);

(8) an operations and maintenance plan which includes sufficient detail to support the budget estimate for operation and maintenance of the facilities;

(9) assurances that the commitments and resources needed for proper operation and maintenance of the system are, and will continue to be, available, including the qualifications of the organization and each individual associated with the proposed system;

(10) for retail public utilities as defined by TWC, §13.002:

(A) projected rate revenue from residential, commercial, and industrial customers; and

(B) pro forma income, expense, and cash flow statements;

(11) identification of any appropriate financial assurance, including those being offered to capital providers;

(12) a notarized statement signed by the owner or responsible person that the business plan has been prepared under his direction and that he is responsible for the accuracy of the information; and

(13) other information required by the executive director to determine the adequacy of the business plan or financial assurance.

(g) Business plans not required. A person is not required to file a business plan if the person:

(1) is a county;

(2) is a retail public utility as defined by TWC, §13.002, unless that person is a utility as defined by that section;

(3) has executed an agreement with a political subdivision to transfer the ownership and operation of the water supply system to the political subdivision; or

(4) is a noncommunity nontransient water system and the person has demonstrated financial assurance under THSC, Chapter 361 or Chapter 382 or TWC, Chapter 26.

(h) Beginning and completion of work.

(1) No person may begin construction on a new public water system before receiving written approval of plans and specifications and, if required, approval of a business plan from the executive director. No person may begin construction of modifications to a public water system without providing notification to the executive director and submitting and receiving approval of plans and specifications if requested in accordance with subsection (j) of this section.

(2) The executive director shall be notified in writing by the design engineer or the owner before construction is started.

(3) Upon completion of the water works project, the engineer or owner shall notify the executive director in writing as to its completion and attest to the fact that the completed work is substantially in accordance with the plans and change orders on file with the commission.

(i) Changes in plans and specifications. Any addenda or change orders which may involve a health hazard or relocation of facilities, such as wells, treatment units, and storage tanks, shall be submitted to the executive director for review and approval.

(j) Changes in existing systems or supplies. Public water systems shall notify the executive director prior to making any significant change or addition to the system's production, treatment, storage, pressure maintenance, or distribution facilities. Public water systems shall submit plans and specifications for the proposed changes upon request. Changes to an existing disinfection process at a treatment plant that treats surface water or groundwater that is under the direct influence of surface water shall not be instituted without the prior approval of the executive director. Any long-term change in water treatment that will impact the corrosivity shall not be instituted without the prior approval of the executive director.

(1) The following changes are considered to be significant:

(A) proposed changes to existing systems which result in an increase or decrease in production, treatment, storage, or pressure maintenance capacity;

(B) proposed changes to the disinfection process used at plants that treat surface water or groundwater that is under the direct influence of surface water including changes involving the disinfectants used, the disinfectant application points, or the disinfectant monitoring points;

(C) proposed changes to the type of disinfectant used to maintain a disinfectant residual in the distribution system;

(D) proposed changes in existing distribution systems when the change is greater than 10% of the existing distribution capacity or 250 connections, whichever is smaller, or results in the water system's inability to comply with any of the applicable capacity requirements of §290.45 of this title;

(E) proposed replacement or change of membranes modules;

(F) any other material changes specified by the executive director; and

(G) examples of long-term treatment changes that could impact the corrosivity of the water include the addition of a new treatment process or modification of an existing treatment process. Examples of modifications include switching secondary disinfectants, switching coagulants, and switching corrosion inhibitor products. Long-term changes can include dose changes to existing chemicals if the system is planning long-term changes to its finished water pH or residual inhibitor concentration. Long-term treatment changes would not include chemical dose fluctuations associated with daily raw water quality changes.

(2) The executive director shall determine whether engineering plans and specifications will be required after reviewing the initial notification regarding the nature and extent of the modifications.

(A) Upon request of the executive director, the water system shall submit plans and specifications in accordance with the requirements of subsection (d) of this section.

(B) Unless plans and specifications are required by Chapter 293 of this title (relating to Water Districts), the executive director will not require another state agency or a political subdivision to submit planning material on distribution line improvements if the

EXHIBIT 1

entity has its own internal review staff and complies with all of the following criteria:

(i) the internal review staff includes one or more licensed professional engineers that are employed by the political subdivision and must be separate from, and not subject to the review or supervision of, the engineering staff or firm charged with the design of the distribution extension under review;

(ii) a licensed professional engineer on the internal review staff determines and certifies in writing that the proposed distribution system changes comply with the requirements of §290.44 of this title (relating to Water Distribution) and will not result in a violation of any provision of §290.45 of this title;

(iii) the state agency or political subdivision includes a copy of the written certification described in this subparagraph with the initial notice that is submitted to the executive director.

(C) Unless plans and specifications are required by Chapter 293 of this title, the executive director will not require planning material on distribution line improvements from any public water system that is required to submit planning material to another state agency or political subdivision that complies with the requirements of subparagraph (B) of this paragraph. The notice to the executive director must include a statement that a state statute or local ordinance requires the planning materials to be submitted to the other state agency or political subdivision and a copy of the written certification that is required in subparagraph (B) of this paragraph.

(3) If a certificate of convenience and necessity (CCN) is required or must be amended, the CCN application must be included with the notice to the executive director.

(k) Planning material acceptance. Planning material for improvements to an existing system which does not meet the requirements of all sections of this subchapter will not be considered unless the necessary modifications for correcting the deficiencies are included in the proposed improvements, or unless the executive director determines that reasonable progress is being made toward correcting the deficiencies and no immediate health hazard will be caused by the delay.

(l) Exceptions. Requests for exceptions to one or more of the requirements in this subchapter shall be considered on an individual basis. Any water system which requests an exception must demonstrate to the satisfaction of the executive director that the exception will not compromise the public health or result in a degradation of service or water quality.

(1) The exception must be requested in writing and must be substantiated by carefully documented data. The request for an exception shall precede the submission of engineering plans and specifications for a proposed project for which an exception is being requested.

(2) Any exception granted by the commission is subject to revocation.

(3) Any request for an exception which is not approved by the commission in writing is denied.

(4) The executive director may establish site specific design, operation, maintenance, and reporting requirements for systems that have been issued an exception to the subchapter.

(m) Notification of system startup or reactivation. The owner or responsible official must provide written notification to the commission of the startup of a new public water supply system or reactivation of an existing public water supply system. This notification must be made immediately upon meeting the definition of a public water system as defined in §290.38 of this title.

(n) The commission may require the owner or operator of a public drinking water supply system that was constructed without the approval required by THSC, §341.035, that has a history of noncompliance with THSC, Chapter 341, Subchapter C or commission rules, or that is subject to a commission enforcement action to take the following action:

(1) provide the executive director with a business plan that demonstrates that the system has available the financial, managerial, and technical resources adequate to ensure future operation of the system in accordance with applicable laws and rules. The business plan must fulfill all the requirements for a business plan as set forth in subsection (f) of this section;

(2) provide adequate financial assurance of the ability to operate the system in accordance with applicable laws and rules. The executive director will set the amount of the financial assurance, after the business plan has been reviewed and approved by the executive director.

(A) The amount of the financial assurance will equal the difference between the amount of projected system revenues and the projected cash needs for the period of time prescribed by the executive director.

(B) The form of the financial assurance will be as specified in Chapter 37, Subchapter O of this title and will be as specified by the executive director.

(C) If the executive director relies on rate increases or customer surcharges as the form of financial assurance, such funds shall be deposited in an escrow account as specified in Chapter 37, Subchapter O of this title and released only with the approval of the executive director.

(o) Emergency Preparedness Plans for Affected Utilities.

(1) Each public water system that is also an affected utility and that exists as of December 1, 2009 is required to adopt and submit to the executive director an emergency preparedness plan in accordance with §290.45 of this title and using the template in Appendix J of §290.47 of this title or another emergency preparedness plan that meets the requirements of this subchapter no later than March 1, 2010. Emergency preparedness plans are required to be prepared under the direction of a licensed professional engineer when an affected utility has been granted or is requesting an alternative capacity requirement in accordance with §290.45(g) of this title, or is requesting to meet the requirements of TWC, §13.1395, as an alternative to any rule requiring elevated storage, or as determined by the executive director on a case by case basis.

(2) Each affected utility that supplies, provides, or conveys surface water to wholesale customers shall include in its emergency preparedness plan under this subsection provisions for the actual installation and maintenance of automatically starting auxiliary generators or distributive generation facilities for each raw water intake pump station, water treatment plant, pump station, and pressure facility necessary to provide water to its wholesale customers.

(3) The executive director shall review an emergency preparedness plan submitted under this subsection. If the executive director determines that the plan is not acceptable, the executive director shall recommend changes to the plan. The executive director must make its recommendations on or before the 90th day after the executive director receives the plan. In accordance with the commission rules, an emergency preparedness plan must include one of the options listed in §290.45(h)(1)(A) - (H) of this title.

EXHIBIT 1

(4) Not later than July 1, 2010, each affected utility shall implement the emergency preparedness plan approved by the executive director.

(5) An affected utility may file with the executive director a written request for an extension not to exceed 90 days, of the date by which the affected utility is required under this subsection to submit the affected utility's emergency preparedness plan or of the date by which the affected utility is required under this subsection to implement the affected utility's emergency preparedness plan. The executive director may approve the requested extension for good cause shown.

(6) The executive director may grant a waiver of the requirements for emergency preparedness plans to an affected utility if the executive director determines that compliance with this section will cause a significant financial burden on customers of the affected utility. The affected utility shall submit financial, managerial, and technical information as requested by the executive director to demonstrate the financial burden.

§290.41. Water Sources.

(a) Water quality. The quality of water to be supplied must meet the quality criteria prescribed by the commission's drinking water standards contained in Subchapter F of this chapter (relating to Drinking Water Standards Governing Drinking Water Quality and Reporting Requirements for Public Water Systems).

(b) Water quantity. Sources of supply, both ground and surface, shall have a safe yield capable of supplying the maximum daily demands of the distribution system during extended periods of peak usage and critical hydrologic conditions. The pipelines and pumping capacities to treatment plants or distribution systems shall be adequate for such water delivery. Minimum capacities required are specified in §290.45 of this title (relating to Minimum Water System Capacity Requirements).

(c) Groundwater sources and development.

(1) Groundwater sources shall be located so that there will be no danger of pollution from flooding or from unsanitary surroundings, such as privies, sewage, sewage treatment plants, livestock and animal pens, solid waste disposal sites or underground petroleum and chemical storage tanks and liquid transmission pipelines, or abandoned and improperly sealed wells.

(A) No well site which is within 50 feet of a tile or concrete sanitary sewer, sewerage appurtenance, septic tank, storm sewer, or cemetery; or which is within 150 feet of a septic tank perforated drainfield, areas irrigated by low dosage, low angle spray on-site sewage facilities, absorption bed, evapotranspiration bed, improperly constructed water well, or underground petroleum and chemical storage tank or liquid transmission pipeline will be acceptable for use as a public drinking water supply. Sanitary or storm sewers constructed of ductile iron or polyvinyl chloride (PVC) pipe meeting American Water Works Association (AWWA) standards, having a minimum working pressure of 150 pounds per square inch (psi) or greater, and equipped with pressure type joints may be located at distances of less than 50 feet from a proposed well site, but in no case shall the distance be less than ten feet.

(B) No well site shall be located within 500 feet of a sewage treatment plant or within 300 feet of a sewage wet well, sewage pumping station, or a drainage ditch which contains industrial waste discharges or the wastes from sewage treatment systems.

(C) No water wells shall be located within 500 feet of animal feed lots, solid waste disposal sites, lands on which sewage plant or septic tank sludge is applied, or lands irrigated by sewage plant effluent.

(D) Livestock in pastures shall not be allowed within 50 feet of water supply wells.

(E) All known abandoned or inoperative wells (unused wells that have not been plugged) within 1/4-mile of a proposed well site shall be reported to the commission along with existing or potential pollution hazards. These reports are required for community and non-transient, noncommunity groundwater sources. Examples of existing or potential pollution hazards which may affect groundwater quality include, but are not limited to: landfill and dump sites, animal feedlots, military facilities, industrial facilities, wood-treatment facilities, liquid petroleum and petrochemical production, storage, and transmission facilities, Class 1, 2, 3, and 4 injection wells, and pesticide storage and mixing facilities. This information must be submitted prior to construction or as required by the executive director.

(F) A sanitary control easement or sanitary control easements covering land within 150 feet of the well, or executive director approval for a substitute authorized by this subsection, shall be obtained.

(i) The sanitary control easement(s) secured shall provide that none of the pollution hazards covered in subparagraphs (A) - (E) of this paragraph, or any facilities that might create a danger of pollution to the water to be produced from the well, will be located thereon.

(ii) For the purpose of a sanitary control easement, an improperly constructed water well is one which fails to meet the surface and subsurface construction standards for public water supply wells. Residential type wells within a sanitary control easement must be constructed to public water well standards.

(iii) A copy of the recorded sanitary control easement(s) shall be included with plans and specifications submitted to the executive director for review.

(iv) With the approval of the executive director, the public water system may submit any of the following as a substitute for obtaining, recording, and submitting a copy of the recorded sanitary control easement(s) covering land within 150 feet of the well:

(I) a copy of the recorded deed and map demonstrating that the public water system owns all real property within 150 feet of the well;

(II) a copy of the recorded deed and map demonstrating that the public water system owns a portion of real property within 150 feet of the well, and a copy of the sanitary control easement(s) that the public water system has obtained, recorded, and submitted to the executive director applicable to the remaining portion of real property within 150 feet of the well not owned by the public water system; or

(III) for a political subdivision, a copy of an ordinance or land use restriction adopted and enforced by the political subdivision which provides an equivalent or higher level of sanitary protection to the well as a sanitary control easement.

(v) If the executive director approves a sanitary control easement substitute identified in clause (iv)(I) or (iv)(II) of this subparagraph for a public water system and the public water system conveys the property it owns within 150 feet of the well to another person or persons, the public water system must at that time obtain, record, and submit to the executive director a copy of the recorded sanitary control easement(s) applicable to the conveyed portion of the property within 150 feet of the well, unless the executive director approves a substitute identified in clause (iv) of this subparagraph.

EXHIBIT 1

(2) The premises, materials, tools, and drilling equipment shall be maintained so as to minimize contamination of the groundwater during drilling operation.

(A) Water used in any drilling operation shall be of safe sanitary quality. Water used in the mixing of drilling fluids or mud shall contain a chlorine residual of at least 0.5 milligrams per liter (mg/L).

(B) The slush pit shall be constructed and maintained so as to minimize contamination of the drilling mud.

(C) No temporary toilet facilities shall be maintained within 150 feet of the well being constructed unless they are of a sealed, leakproof type.

(3) The construction, disinfection, protection, and testing of a well to be used as a public water supply source must meet the following conditions.

(A) Before placing the well into service, a public water system shall furnish a copy of the well completion data, which includes the following items: the Driller's Log (geological log and material setting report); a cementing certificate; the results of a 36-hour pump test; the results of the microbiological and chemical analyses required by subparagraphs (F) and (G) of this paragraph; a legible copy of the recorded deed or deeds for all real property within 150 feet of the well; a legible copy of the sanitary control easement(s) or other documentation demonstrating compliance with paragraph (1)(F) of this subsection; an original or legible copy of a United States Geological Survey 7.5-minute topographic quadrangle showing the accurate well location to the executive director; and a map demonstrating the well location in relation to surrounding property boundaries. All the documents listed in this paragraph must be approved by the executive director before final approval is granted for the use of the well.

(B) The casing material used in the construction of wells for public use shall be new carbon steel, high-strength low-alloy steel, stainless steel or plastic. The material shall conform to AWWA standards. The casing shall extend a minimum of 18 inches above the elevation of the finished floor of the pump room or natural ground surface and a minimum of one inch above the sealing block or pump motor foundation block when provided. The casing shall extend at least to the depth of the shallowest water formation to be developed and deeper, if necessary, in order to eliminate all undesirable water-bearing strata. Well construction materials containing more than 8.0% lead are prohibited.

(C) The space between the casing and drill hole shall be sealed by using enough cement under pressure to completely fill and seal the annular space between the casing and the drill hole. The well casing shall be cemented in this manner from the top of the shallowest formation to be developed to the earth's surface. The driller shall utilize a pressure cementation method in accordance with the AWWA Standard for Water Wells (A100-06), Appendix C: Section C.2 (Positive Displacement Exterior Method); Section C.3 (Interior Method Without Plug); Section C.4 (Positive Placement, Interior Method, Drillable Plug); and Section C.5 (Placement Through Float Shoe Attached to Bottom of Casing). Cementation methods other than those listed in this subparagraph may be used on a site-specific basis with the prior written approval of the executive director. A cement bonding log, as well as any other documentation deemed necessary, may be required by the executive director to assure complete sealing of the annular space.

(D) When a gravel packed well is constructed, all gravel shall be of selected and graded quality and shall be thoroughly disinfected with a 50 mg/L chlorine solution as it is added to the well cavity.

(E) Safeguards shall be taken to prevent possible contamination of the water or damage by trespassers following the completion of the well and prior to installation of permanent pumping equipment.

(F) Upon well completion, or after an existing well has been reworked, the well shall be disinfected in accordance with current AWWA standards for well disinfection except that the disinfectant shall remain in the well for at least six hours.

(i) Before placing the well in service, the water containing the disinfectant shall be flushed from the well and then samples of water shall be collected and submitted for microbiological analysis until three successive daily raw water samples are free of coliform organisms. The analysis of these samples must be conducted by a laboratory accredited by the Texas Commission on Environmental Quality.

(ii) Appropriate facilities for treatment of the water shall be provided where a satisfactory microbiological record cannot be established after repeated disinfection. The extent of water treatment required will be determined on the basis of geological data, well construction features, nearby sources of contamination and, perhaps, on the basis of quantitative microbiological analyses.

(G) A complete physical and chemical analysis of the water produced from a new well shall be made after 36 hours of continuous pumping at the design withdrawal rate. Shorter pump test periods can be accepted for large capacity wells producing from areas of known groundwater production and quality so as to prevent wasting of water. Samples must be submitted to an accredited laboratory for chemical analyses. Tentative approval may be given on the basis of tests performed by in-plant or private laboratories, but final acceptance by the commission shall be on the basis of results from the accredited laboratory. Appropriate treatment shall be provided if the analyses reveal that the water from the well fails to meet the water quality criteria as prescribed by the drinking water standards. These criteria include turbidity, color and threshold odor limitations, and excessive hydrogen sulfide, carbon dioxide, or other constituents or minerals which make the water undesirable or unsuited for domestic use. Additional chemical and microbiological tests may be required after the executive director conducts a vulnerability assessment of the well.

(H) Below ground-level pump rooms and pump pits will not be allowed in connection with water supply installations.

(I) The well site shall be fine graded so that the site is free from depressions, reverse grades, or areas too rough for proper ground maintenance so as to ensure that surface water will drain away from the well. In all cases, arrangements shall be made to convey well pump drainage, packing gland leakage, and floor drainage away from the wellhead. Suitable drain pipes located at the outer edge of the concrete floor shall be provided to collect this water and prevent its ponding or collecting around the wellhead. This wastewater shall be disposed of in a manner that will not cause any nuisance from mosquito breeding or stagnation. Drains shall not be directly connected to storm or sanitary sewers.

(J) In all cases, a concrete sealing block extending at least three feet from the well casing in all directions, with a minimum thickness of six inches and sloped to drain away at not less than 0.25 inches per foot shall be provided around the wellhead.

(K) Wellheads and pump bases shall be sealed by a gasket or sealing compound and properly vented to prevent the possibility of contaminating the well water. A well casing vent shall be provided with an opening that is covered with 16-mesh or finer corrosion-resistant screen, facing downward, elevated and located so as to minimize the drawing of contaminants into the well. Wellheads and well vents shall be at least two feet above the highest known watermark

EXHIBIT 1

or 100-year flood elevation, if available, or adequately protected from possible flood damage by levees.

(L) If a well blow-off line is provided, its discharge shall terminate in a downward direction and at a point which will not be submerged by flood waters.

(M) A suitable sampling cock shall be provided on the discharge pipe of each well pump prior to any treatment.

(N) Flow measuring devices shall be provided for each well to measure production yields and provide for the accumulation of water production data. These devices shall be located to facilitate daily reading.

(O) All completed well units shall be protected by intruder-resistant fences, the gates of which are provided with locks or shall be enclosed in locked, ventilated well houses to exclude possible contamination or damage to the facilities by trespassers. The gates or wellhouses shall be locked during periods of darkness and when the plant is unattended.

(P) An all-weather access road shall be provided to each well site.

(Q) If an air release device is provided on the discharge piping, it shall be installed in such a manner as to preclude the possibility of submergence or possible entrance of contaminants. In this respect, all openings to the atmosphere shall be covered with 16-mesh or finer, corrosion-resistant screening material or an acceptable equivalent.

(4) Pitless units may be desirable in areas subject to vandalism or extended periods of subfreezing weather.

(A) Pitless units shall be shop fabricated from the point of connection with the well casing to the unit cap or cover, be threaded or welded to the well casing, be of watertight construction throughout, and be of materials and weight at least equivalent and compatible to the casing. The units must have a field connection to the lateral discharge from the pitless unit of threaded, flanged, or mechanical joint connection.

(B) The design of the pitless unit shall make provisions for an access to disinfect the well, a properly designed casing vent, a cover at the upper terminal of the well that will prevent the entrance of contamination, a sealed entrance connection for electrical cable, and at least one check valve within the well casing. The unit shall have an inside diameter as great as that of the well casing up to and including casing diameters of 12 inches.

(C) If the connection to the casing is by field weld, the shop-assembled unit must be designed specifically for field welding to the casing. The only field welding permitted will be that needed to connect a pitless unit to the well casing.

(D) With the exception of the fact that the well was constructed using a pitless unit, the well must otherwise meet all of the requirements of paragraph (3) of this subsection.

(d) Springs and other water sources.

(1) Springs and other similar sources of flowing artesian water shall be protected from potential contaminant sources in accordance with the requirements of subsection (c)(1) of this section.

(2) Before placing the spring or similar source into service, completion data similar to that required by subsection (c)(3)(A) of this section must be submitted to the executive director for review and approval to the Texas Commission on Environmental Quality, Water Supply Division, MC 153, P.O. Box 13087, Austin, Texas 78711-3087.

(3) Springs and similar sources shall be constructed in a manner which will preclude the entrance of surface water and debris.

(A) The site shall be fine graded so that it is free from depressions, reverse grades, or areas too rough for proper ground maintenance in order to ensure that surface water will drain away from the source.

(B) The spring or similar source shall be encased in an open-bottomed, watertight basin which intercepts the flowing water below the surface of the ground. The basin shall extend at least 18 inches above ground level. The top of the basin shall also be at least two feet above the highest known watermark or 100-year flood elevation, if available, or adequately protected from possible flood damage by levees.

(C) In all cases, a concrete sealing block shall be provided which extends at least three feet from the encasement in all directions. The sealing block shall be at least six inches thick and be sloped to drain away from the encasement at not less than 0.25 inches per foot.

(D) The top of the encasement shall be provided with a sloped, watertight roof which prevents the ponding of water and precludes the entrance of animals, insects, and other sources of contamination.

(E) The roof of the encasement shall be provided with a hatch that is not less than 30 inches in diameter. The hatch shall have a raised curbing at least four inches in height with a lockable cover that overlaps the curbing at least two inches in a downward direction. Where necessary, a gasket shall be used to make a positive seal when the hatch is closed. All hatches shall remain locked except during inspections and maintenance.

(F) The encasement shall be provided with a gooseneck vent or roof ventilator which is equipped with approved screens to prevent entry of animals, birds, insects, and heavy air contaminants. Screens shall be fabricated of corrosion-resistant material and shall be 16-mesh or finer. Screens shall be securely clamped in place with stainless or galvanized bands or wires.

(G) The encasement shall be provided with an overflow which is designed to prevent the entry of animals, birds, insects, and debris. The discharge opening of the overflow shall be above the surface of the ground and shall not be subject to submergence.

(4) Springs and similar sources must be provided with the appurtenances required by subsection (c)(3)(L) - (Q) of this section.

(5) All systems with new springs or similar sources must monitor microbiological source water quality at the new springs or similar sources in accordance with §290.111 of this title (relating to Surface Water Treatment) on a schedule determined by the executive director. The system must notify the agency of the new spring or similar source prior to construction. The executive director may waive these requirements if the spring or similar source has been determined not to be under the direct influence of surface water.

(e) Surface water sources and development.

(1) To determine the degree of pollution from all sources within the watershed, an evaluation shall be made of the surface water source in the area of diversion and its tributary streams. The area where surface water sources are diverted for drinking water use shall be evaluated and protected from sources of contamination.

(A) Where surface water sources are subject to continuous or intermittent contamination by municipal, agricultural, or industrial wastes and/or treated effluent, the adverse effects of the contami-

EXHIBIT 1

nation on the quality of the raw water reaching the treatment plant shall be determined by site evaluations and laboratory procedures.

(B) The disposal of all liquid or solid wastes from any source on the watershed must be in conformity with applicable regulations and state statutes.

(C) Shore installations, marinas, boats and all habitations on the watershed shall be provided with satisfactory sewage disposal facilities. Septic tanks and soil absorption fields, tile or concrete sanitary sewers, sewer manholes, or other approved toilet facilities shall not be located in an area within 75 feet horizontally from the lake water surface at the uncontrolled spillway elevation of the lake or 75 feet horizontally from the 50-year flood elevation, whichever is lower.

(D) Disposal of wastes from boats or any other watercraft shall be in accordance with §§321.1 - 321.11 of this title (relating to Purpose, Scope, and Applicability; Definitions; Injection Prohibited; Mechanical Integrity Required; Prevention of Pollution; Prohibition of Class IV Well Injection; Permit Required; Prohibition of Motor Vehicle Waste Disposal Wells and Large Capacity Cesspools; Injection Authorized by Rule; Inventory of Wells Authorized by Rule; and Classification of Injection Wells, respectively).

(E) Pesticides or herbicides which are used within the watershed shall be applied in strict accordance with the product label restrictions.

(F) Before approval of a new surface water source, the system shall provide the executive director with information regarding specific water quality parameters of the potential source water. These parameters are pH, total coliform, *Escherichia coli,* turbidity, alkalinity, hardness, bromide, total organic carbon, temperature, color, taste and odor, regulated volatile organic compounds, regulated synthetic organic compounds, regulated inorganic compounds, and possible sources of contamination. If data on the incidence of *Giardia* cysts and *Cryptosporidium* oocysts has been collected, the information shall be provided to the executive director. This data shall be provided to the executive director as part of the approval process for a new surface water source.

(G) All systems with new surface water intakes or new bank filtration wells must monitor microbiological source water quality at the new surface water intakes or new bank filtration wells in accordance with §290.111 of this title on a schedule determined by the executive director. The system must notify the agency of the new surface water intake or bank filtration well prior to construction.

(2) Intakes shall be located and constructed in a manner which will secure raw water of the best quality available from the source.

(A) Intakes shall not be located in areas subject to excessive siltation or in areas subject to receiving immediate runoff from wooded sloughs or swamps.

(B) Raw water intakes shall not be located within 1,000 feet of boat launching ramps, marinas, docks, or floating fishing piers which are accessible by the public.

(C) A restricted zone of 200 feet radius from the raw water intake works shall be established and all recreational activities and trespassing shall be prohibited in this area. Regulations governing this zone shall be in the city ordinances or the rules and regulations promulgated by a water district or similar regulatory agency. The restricted zone shall be designated with signs recounting these restrictions. The signs shall be maintained in plain view of the public and shall be visible from all parts of the restricted area. In addition, special buoys may be required as deemed necessary by the executive director. Provisions shall be made for the strict enforcement of such ordinances or regulations.

(D) Commission staff shall make an on-site evaluation of any proposed raw water intake location. The evaluation must be requested prior to final design and must be supported by preliminary design drawings. Once the final intake location has been selected, the executive director shall be furnished with an original or legible copy of a United States Geological Survey 7.5-minute topographic quadrangle showing the accurate intake location.

(E) Intakes shall be located and constructed in a manner which will allow raw water to be taken from a variety of depths and which will permit withdrawal of water when reservoir levels are very low. Fixed level intakes are acceptable if water quality data is available to establish that the effect on raw water quality will be minimal.

(F) Water intake works shall be provided with screens or grates to minimize the amount of debris entering the plant.

(G) Intakes shall not be located within 500 feet of a sewage treatment plant or lands irrigated with sewage effluent.

(3) The raw water pump station shall be located in a well-drained area and shall be designed to remain in operation during flood events.

(4) An all weather road shall be provided to the raw water pump station.

(5) The raw water pump station and all appurtenances must be installed in a lockable building that is designed to prevent intruder access or enclosed by an intruder-resistant fence with lockable gates.

§290.46. Minimum Acceptable Operating Practices for Public Drinking Water Systems.

(a) General. When a public drinking water supply system is to be established, plans shall be submitted to the executive director for review and approval prior to the construction of the system. All public water systems are to be constructed in conformance with the requirements of this subchapter and maintained and operated in accordance with the following minimum acceptable operating practices. Owners and operators shall allow entry to members of the commission and employees and agents of the commission onto any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to public water systems in the state. Members, employees, or agents acting under this authority shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials.

(b) Microbiological. Submission of samples for microbiological analysis shall be as required by Subchapter F of this chapter (relating to Drinking Water Standards Governing Drinking Water Quality and Reporting Requirements for Public Water Systems). Microbiological samples may be required by the executive director for monitoring purposes in addition to the routine samples required by the drinking water standards. These samples shall be submitted to an accredited laboratory. (A list of the accredited laboratories can be obtained by contacting the executive director).

(c) Chemical. Samples for chemical analysis shall be submitted as directed by the executive director.

(d) Disinfectant residuals and monitoring. A disinfectant residual must be continuously maintained during the treatment process and throughout the distribution system.

EXHIBIT 1

(1) Disinfection equipment shall be operated and monitored in a manner that will assure compliance with the requirements of §290.110 of this title (relating to Disinfectant Residuals).

(2) The disinfection equipment shall be operated to maintain the following minimum disinfectant residuals in each finished water storage tank and throughout the distribution system at all times:

(A) a free chlorine residual of 0.2 milligrams per liter (mg/L); or

(B) a chloramine residual of 0.5 mg/L (measured as total chlorine) for those systems that feed ammonia.

(e) Operation by trained and licensed personnel. Except as provided in paragraph (1) of this subsection, the production, treatment, and distribution facilities at the public water system must be operated at all times under the direct supervision of a water works operator who holds an applicable, valid license issued by the executive director.

(1) Transient noncommunity public water systems are exempt from the requirements of this subsection if they use only groundwater or purchase treated water from another public water system.

(2) All public water systems that are subject to the provisions of this subsection shall meet the following requirements.

(A) Public water systems shall not allow new or repaired production, treatment, storage, pressure maintenance, or distribution facilities to be placed into service without the prior guidance and approval of a licensed water works operator.

(B) Public water systems shall ensure that their operators are trained regarding the use of all chemicals used in the water treatment plant. Training programs shall meet applicable standards established by the Occupational Safety and Health Administration (OSHA) or the Texas Hazard Communications Act, Texas Health and Safety Code, Title 6, Chapter 502.

(C) Public water systems using chlorine dioxide shall place the operation of the chlorine dioxide facilities under the direct supervision of a licensed operator who has a Class "C" or higher license.

(3) Systems that only purchase treated water shall meet the following requirements in addition to the requirements contained in paragraph (2) of this subsection.

(A) Purchased water systems serving no more than 250 connections must employ an operator who holds a Class "D" or higher license.

(B) Purchased water systems serving more than 250 connections, but no more than 1,000 connections, must employ an operator who holds a Class "C" or higher license.

(C) Purchased water systems serving more than 1,000 connections must employ at least two operators who hold a Class "C" or higher license and who each work at least 16 hours per month at the public water system's treatment or distribution facilities.

(4) Systems that treat groundwater and do not treat surface water or groundwater that is under the direct influence of surface water shall meet the following requirements in addition to the requirements contained in paragraph (2) of this subsection.

(A) Groundwater systems serving no more than 250 connections must employ an operator with a Class "D" or higher license.

(B) Groundwater systems serving more than 250 connections, but no more than 1,000 connections, must employ an operator with a Class "C" or higher groundwater license.

(C) Groundwater systems serving more than 1,000 connections must employ at least two operators who hold a Class "C" or higher groundwater license and who each work at least 16 hours per month at the public water system's production, treatment, or distribution facilities.

(5) Systems that treat groundwater that is under the direct influence of surface water must meet the following requirements in addition to the requirements contained in paragraph (2) of this subsection.

(A) Systems which serve no more than 1,000 connections and utilize cartridge or membrane filters must employ an operator who holds a Class "C" or higher groundwater license and has completed a four-hour training course on monitoring and reporting requirements or who holds a Class "C" or higher surface water license and has completed the Groundwater Production course.

(B) Systems which serve more than 1,000 connections and utilize cartridge or membrane filters must employ at least two operators who meet the requirements of subparagraph (A) of this paragraph and who each work at least 24 hours per month at the public water system's production, treatment, or distribution facilities.

(C) Systems which serve no more than 1,000 connections and utilize coagulant addition and direct filtration must employ an operator who holds a Class "C" or higher surface water license and has completed the Groundwater Production course or who holds a Class "C" or higher groundwater license and has completed a Surface Water Production course. Effective January 1, 2007, the public water system must employ at least one operator who has completed the Surface Water Unit I course and the Surface Water Unit II course.

(D) Systems which serve more than 1,000 connections and utilize coagulant addition and direct filtration must employ at least two operators who meet the requirements of subparagraph (C) of this paragraph and who each work at least 24 hours per month at the public water system's production, treatment, or distribution facilities. Effective January 1, 2007, the public water system must employ at least two operators who have completed the Surface Water Unit I course and the Surface Water Unit II course.

(E) Systems which utilize complete surface water treatment must comply with the requirements of paragraph (6) of this subsection.

(F) Each plant must have at least one Class "C" or higher operator on duty at the plant when it is in operation or the plant must be provided with continuous turbidity and disinfectant residual monitors with automatic plant shutdown and alarms to summon operators so as to ensure that the water produced continues to meet the commission's drinking water standards during periods when the plant is not staffed.

(6) Systems that treat surface water must meet the following requirements in addition to the requirements contained in paragraph (2) of this subsection.

(A) Surface water systems that serve no more than 1,000 connections must employ at least one operator who holds a Class "B" or higher surface water license. Part-time operators may be used to meet the requirements of this subparagraph if the operator is completely familiar with the design and operation of the plant and spends at least four consecutive hours at the plant at least once every 14 days and the system also employs an operator who holds a Class "C" or higher surface water license. Effective January 1, 2007, the public

EXHIBIT 1

water system must employ at least one operator who has completed the Surface Water Unit I course and the Surface Water Unit II course.

(B) Surface water systems that serve more than 1,000 connections must employ at least two operators; one of the required operators must hold a Class "B" or higher surface water license and the other required operator must hold a Class "C" or higher surface water license. Each of the required operators must work at least 32 hours per month at the public water system's production, treatment, or distribution facilities. Effective January 1, 2007, the public water system must employ at least two operators who have completed the Surface Water Unit I course and the Surface Water Unit II course.

(C) Each surface water treatment plant must have at least one Class "C" or higher surface water operator on duty at the plant when it is in operation or the plant must be provided with continuous turbidity and disinfectant residual monitors with automatic plant shutdown and alarms to summon operators so as to ensure that the water produced continues to meet the commission's drinking water standards during periods when the plant is not staffed.

(D) Public water systems shall not allow Class "D" operators to adjust or modify the treatment processes at surface water treatment plant unless an operator who holds a Class "C" or higher surface license is present at the plant and has issued specific instructions regarding the proposed adjustment.

(f) Operating records and reports. Water systems must maintain a record of water works operation and maintenance activities and submit periodic operating reports.

(1) The public water system's operating records must be organized, and copies must be kept on file or stored electronically.

(2) The public water system's operating records must be accessible for review during inspections.

(3) All public water systems shall maintain a record of operations.

(A) The following records shall be retained for at least two years:

(i) the amount of chemicals used:

(I) Systems that treat surface water or groundwater under the direct influence of surface water shall maintain a record of the amount of each chemical used each day.

(II) Systems that serve 250 or more connections or serve 750 or more people shall maintain a record of the amount of each chemical used each day.

(III) Systems that serve fewer than 250 connections, serve fewer than 750 people, and use only groundwater or purchased treated water shall maintain a record of the amount of each chemical used each week;

(ii) the volume of water treated:

(I) Systems that treat surface water or groundwater under the direct influence of surface water shall maintain a record of the amount of water treated each day.

(II) Systems that serve 250 or more connections or serve 750 or more people shall maintain a record of the amount of water treated each day.

(III) Systems that serve fewer than 250 connections, serve fewer than 750 people, and use only groundwater or purchase treated water shall maintain a record of the amount of water treated each week;

(iii) the date, location, and nature of water quality, pressure, or outage complaints received by the system and the results of any subsequent complaint investigation;

(iv) the dates that dead-end mains were flushed;

(v) the dates that storage tanks and other facilities were cleaned;

(vi) the maintenance records for water system equipment and facilities; and

(vii) for systems that do not employ full-time operators to meet the requirements of subsection (e) of this section, a daily record or a monthly summary of the work performed and the number of hours worked by each of the part-time operators used to meet the requirements of subsection (e) of this section.

(B) The following records shall be retained for at least three years:

(i) copies of notices of violation and any resulting corrective actions. The records of the actions taken to correct violations of primary drinking water regulations must be retained for at least three years after the last action taken with respect to the particular violation involved;

(ii) copies of any public notice issued by the water system;

(iii) the disinfectant residual monitoring results from the distribution system;

(iv) the calibration records for laboratory equipment, flow meters, rate-of-flow controllers, on-line turbidimeters, and on-line disinfectant residual analyzers;

(v) the records of backflow prevention device programs;

(vi) the raw surface water monitoring results and source water monitoring plans required by §290.111 of this title (relating to Surface Water Treatment) must be retained for three years after bin classification required by §290.111 of this title;

(vii) notification to the executive director that a system will provide 5.5-log *Cryptosporidium* treatment in lieu of raw surface water monitoring; and

(viii) except for those specified in subparagraph (C)(iv) of this paragraph and subparagraph (E)(i) of this paragraph, the results of all surface water treatment monitoring that are used to demonstrate log inactivation or removal.

(C) The following records shall be retained for a period of five years after they are no longer in effect:

(i) the records concerning a variance or exemption granted to the system;

(ii) Concentration Time (CT) studies for surface water treatment plants;

(iii) the Recycling Practices Report form and other records pertaining to site-specific recycle practices for treatment plants that recycle; and

(iv) the turbidity monitoring results and exception reports for individual filters as required by §290.111 of this title.

(D) The following records shall be retained for at least five years:

(i) the results of microbiological analyses;

EXHIBIT 1

(ii) the results of inspections (as required in subsection (m)(1) of this section) for all water storage and pressure maintenance facilities;

(iii) the results of inspections as required by subsection (m)(2) of this section for all pressure filters;

(iv) documentation of compliance with state approved corrective action plan and schedules required to be completed by groundwater systems that must take corrective actions;

(v) documentation of the reason for an invalidated fecal indicator source sample;

(vi) notification to wholesale system(s) of a distribution coliform positive sample for consecutive systems using groundwater; and

(vii) Consumer Confidence Report compliance documentation.

(E) The following records shall be retained for at least ten years:

(i) copies of Monthly Operating Reports and any supporting documentation including turbidity monitoring results of the combined filter effluent;

(ii) the results of chemical analyses;

(iii) any written reports, summaries, or communications relating to sanitary surveys of the system conducted by the system itself, by a private consultant, or by the executive director shall be kept for a period not less than ten years after completion of the survey involved;

(iv) copies of the Customer Service Inspection reports required by subsection (j) of this section;

(v) copy of any Initial Distribution System Evaluation (IDSE) plan, report, approval letters, and other compliance documentation required by §290.115 of this title (relating to Stage 2 Disinfection Byproducts (TTHM and HAA5));

(vi) state notification of any modifications to an IDSE report;

(vii) copy of any 40/30 certification required by §290.115 of this title;

(viii) documentation of corrective actions taken by groundwater systems in accordance with §290.116 of this title (relating to Groundwater Corrective Actions and Treatment Techniques); and

(ix) any monitoring plans required by §290.121(b) of this title (relating to Monitoring Plans).

(F) A public water system shall maintain records relating to lead and copper requirements under §290.117 of this title (relating to Regulation of Lead and Copper) for no less than 12 years. Any system subject to the requirements of §290.117 of this title shall retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, executive determinations, and any other information required by the executive director under §290.117 of this title. These records include, but are not limited to, the following items: tap water monitoring results including the location of each site and date of collection; certification of the volume and validity of first-draw-tap sample criteria via a copy of the laboratory analysis request form; where residents collected the sample; certification that the water system informed the resident of proper sampling procedures; the analytical results for lead and copper concentrations at each tap sample site; and designation of any substitute site not used in previous monitoring periods.

(G) A public water system shall maintain records relating to special studies and pilot projects, special monitoring, and other system-specific matters as directed by the executive director.

(4) Water systems shall submit routine reports and any additional documentation that the executive director may require to determine compliance with the requirements of this chapter.

(A) The reports must be submitted to the Texas Commission on Environmental Quality, Water Supply Division, MC 155, P.O. Box 13087, Austin, Texas 78711-3087 by the tenth day of the month following the end of the reporting period.

(B) The reports must contain all the information required by the drinking water standards and the results of any special monitoring tests which have been required.

(C) The reports must be completed in ink, typed, or computer-printed and must be signed by the licensed water works operator.

(5) All public water systems that are affected utilities must maintain the following records for as long as they are applicable to the system:

(A) An emergency preparedness plan approved by the executive director and a copy of the approval letter.

(B) All required operating and maintenance records for auxiliary power equipment, including periodic testing of the auxiliary power equipment under load and any associated automatic switch over equipment.

(C) Copies of the manufacturer's specifications for all generators that are part of the approved emergency preparedness plan.

(g) Disinfection of new or repaired facilities. Disinfection by or under the direction of water system personnel must be performed when repairs are made to existing facilities and before new facilities are placed into service. Disinfection must be performed in accordance with American Water Works Association (AWWA) requirements and water samples must be submitted to a laboratory approved by the executive director. The sample results must indicate that the facility is free of microbiological contamination before it is placed into service. When it is necessary to return repaired mains to service as rapidly as possible, doses may be increased to 500 mg/L and the contact time reduced to 1/2 hour.

(h) Calcium hypochlorite. A supply of calcium hypochlorite disinfectant shall be kept on hand for use when making repairs, setting meters, and disinfecting new mains prior to placing them in service.

(i) Plumbing ordinance. Public water systems must adopt an adequate plumbing ordinance, regulations, or service agreement with provisions for proper enforcement to insure that neither cross-connections nor other unacceptable plumbing practices are permitted (See §290.47(b) of this title (relating to Appendices)). Should sanitary control of the distribution system not reside with the purveyor, the entity retaining sanitary control shall be responsible for establishing and enforcing adequate regulations in this regard. The use of pipes and pipe fittings that contain more than 8.0% lead or solders and flux that contain more than 0.2% lead is prohibited for installation or repair of any public water supply and for installation or repair of any plumbing in a residential or nonresidential facility providing water for human consumption and connected to a public drinking water supply system. This requirement may be waived for lead joints that are necessary for repairs to cast iron pipe.

EXHIBIT 1

(j) Customer service inspections. A customer service inspection certificate shall be completed prior to providing continuous water service to new construction, on any existing service either when the water purveyor has reason to believe that cross-connections or other potential contaminant hazards exist, or after any material improvement, correction, or addition to the private water distribution facilities. Any customer service inspection certificate form which varies from the format found in §290.47(d) of this title must be approved by the executive director prior to being placed in use.

(1) Individuals with the following credentials shall be recognized as capable of conducting a customer service inspection certification.

(A) Plumbing Inspectors and Water Supply Protection Specialists licensed by the Texas State Board of Plumbing Examiners (TSBPE).

(B) Customer service inspectors who have completed a commission-approved course, passed an examination administered by the executive director, and hold current professional license as a customer service inspector.

(2) As potential contaminant hazards are discovered, they shall be promptly eliminated to prevent possible contamination of the water supplied by the public water system. The existence of a health hazard, as identified in §290.47(i) of this title, shall be considered sufficient grounds for immediate termination of water service. Service can be restored only when the health hazard no longer exists, or until the health hazard has been isolated from the public water system in accordance with §290.44(h) of this title (relating to Water Distribution).

(3) These customer service inspection requirements are not considered acceptable substitutes for and shall not apply to the sanitary control requirements stated in §290.102(a)(5) of this title (relating to General Applicability).

(4) A customer service inspection is an examination of the private water distribution facilities for the purpose of providing or denying water service. This inspection is limited to the identification and prevention of cross-connections, potential contaminant hazards, and illegal lead materials. The customer service inspector has no authority or obligation beyond the scope of the commission's regulations. A customer service inspection is not a plumbing inspection as defined and regulated by the TSBPE. A customer service inspector is not permitted to perform plumbing inspections. State statutes and TSBPE adopted rules require that TSBPE licensed plumbing inspectors perform plumbing inspections of all new plumbing and alterations or additions to existing plumbing within the municipal limits of all cities, towns, and villages which have passed an ordinance adopting one of the plumbing codes recognized by TSBPE. Such entities may stipulate that the customer service inspection be performed by the plumbing inspector as a part of the more comprehensive plumbing inspection. Where such entities permit customer service inspectors to perform customer service inspections, the customer service inspector shall report any violations immediately to the local entity's plumbing inspection department.

(k) Interconnection. No physical connection between the distribution system of a public drinking water supply and that of any other water supply shall be permitted unless the other water supply is of a safe, sanitary quality and the interconnection is approved by the executive director.

(l) Flushing of mains. All dead-end mains must be flushed at monthly intervals. Dead-end lines and other mains shall be flushed as needed if water quality complaints are received from water customers or if disinfectant residuals fall below acceptable levels as specified in §290.110 of this title.

(m) Maintenance and housekeeping. The maintenance and housekeeping practices used by a public water system shall ensure the good working condition and general appearance of the system's facilities and equipment. The grounds and facilities shall be maintained in a manner so as to minimize the possibility of the harboring of rodents, insects, and other disease vectors, and in such a way as to prevent other conditions that might cause the contamination of the water.

(1) Each of the system's ground, elevated, and pressure tanks shall be inspected annually by water system personnel or a contracted inspection service.

(A) Ground and elevated storage tank inspections must determine that the vents are in place and properly screened, the roof hatches closed and locked, flap valves and gasketing provide adequate protection against insects, rodents, and other vermin, the interior and exterior coating systems are continuing to provide adequate protection to all metal surfaces, and the tank remains in a watertight condition.

(B) Pressure tank inspections must determine that the pressure release device and pressure gauge are working properly, the air-water ratio is being maintained at the proper level, the exterior coating systems are continuing to provide adequate protection to all metal surfaces, and the tank remains in watertight condition. Pressure tanks provided with an inspection port must have the interior surface inspected every five years.

(C) All tanks shall be inspected annually to determine that instrumentation and controls are working properly.

(2) When pressure filters are used, a visual inspection of the filter media and internal filter surfaces shall be conducted annually to ensure that the filter media is in good condition and the coating materials continue to provide adequate protection to internal surfaces.

(3) When cartridge filters are used, filter cartridges shall be changed at the frequency required by the manufacturer, or more frequently if needed.

(4) All water treatment units, storage and pressure maintenance facilities, distribution system lines, and related appurtenances shall be maintained in a watertight condition and be free of excessive solids.

(5) Basins used for water clarification shall be maintained free of excessive solids to prevent possible carryover of sludge and the formation of tastes and odors.

(6) Pumps, motors, valves, and other mechanical devices shall be maintained in good working condition.

(n) Engineering plans and maps. Plans, specifications, maps, and other pertinent information shall be maintained to facilitate the operation and maintenance of the system's facilities and equipment. The following records shall be maintained on file at the public water system and be available to the executive director upon request.

(1) Accurate and up-to-date detailed as-built plans or record drawings and specifications for each treatment plant, pump station, and storage tank shall be maintained at the public water system until the facility is decommissioned. As-built plans of individual projects may be used to fulfill this requirement if the plans are maintained in an organized manner.

(2) An accurate and up-to-date map of the distribution system shall be available so that valves and mains can be easily located during emergencies.

EXHIBIT 1

(3) Copies of well completion data such as well material setting data, geological log, sealing information (pressure cementing and surface protection), disinfection information, microbiological sample results, and a chemical analysis report of a representative sample of water from the well shall be kept on file for as long as the well remains in service.

(o) Filter backwashing at surface water treatment plants. Filters must be backwashed when a loss of head differential of six to ten feet is experienced between the influent and effluent loss of head gauges or when the turbidity level at the effluent of the filter reaches 1.0 nephelometric turbidity unit (NTU).

(p) Data on water system ownership and management. The agency shall be provided with information regarding water system ownership and management.

(1) When a water system changes ownership, a written notice of the transaction must be provided to the executive director. When applicable, notification shall be in accordance with Chapter 291 of this title (relating to Utility Regulations). Those systems not subject to Chapter 291 of this title shall notify the executive director of changes in ownership by providing the name of the current and prospective owner or responsible official, the proposed date of the transaction, and the address and phone number of the new owner or responsible official. The information listed in this paragraph and the system's public drinking water supply identification number, and any other information necessary to identify the transaction shall be provided to the executive director 120 days before the date of the transaction.

(2) On an annual basis, the owner of a public water system shall provide the executive director with a written list of all the operators and operating companies that the public water system employs. The notice shall contain the name, license number, and license class of each employed operator and the name and registration number of each employed operating company (See §290.47(g) of this title).

(q) Special precautions. Special precautions must be instituted by the water system owner or responsible official in the event of low distribution pressures (below 20 pounds per square inch (psi)), water outages, microbiological samples found to contain *E. coli* or fecal coliform organisms, failure to maintain adequate chlorine residuals, elevated finished water turbidity levels, or other conditions which indicate that the potability of the drinking water supply has been compromised.

(1) Boil water notifications must be issued to the customers within 24 hours using the prescribed notification format as specified in §290.47(e) of this title. A copy of this notice shall be provided to the executive director. Bilingual notification may be appropriate based upon local demographics. Once the boil water notification is no longer in effect, the customers must be notified in a manner similar to the original notice.

(2) The flowchart found in §290.47(h) of this title shall be used to determine if a boil water notification must be issued in the event of a loss of distribution system pressure. If a boil water notice is issued under this section, it shall remain in effect until water distribution pressures in excess of 20 psi can consistently be maintained, a minimum of 0.2 mg/L free chlorine residual or 0.5 mg/L chloramine residual (measured as total chlorine) is present throughout the system, and water samples collected for microbiological analysis are found negative for coliform organisms.

(3) A boil water notification shall be issued if the turbidity of the finished water produced by a surface water treatment plant exceeds 5.0 NTU. The boil water notice shall remain in effect until the water entering the distribution system has a turbidity level below 1.0 NTU, the distribution system has been thoroughly flushed, a minimum of 0.2 mg/L free chlorine residual or 0.5 mg/L chloramine residual (measured as total chlorine) is present throughout the system, and water samples collected for microbiological analysis are found negative for coliform organisms.

(4) Other protective measures may be required at the discretion of the executive director.

(r) Minimum pressures. All public water systems shall be operated to provide a minimum pressure of 35 psi throughout the distribution system under normal operating conditions. The system shall also be operated to maintain a minimum pressure of 20 psi during emergencies such as fire fighting. As soon as safe and practicable following the occurrence of a natural disaster, a public water system that is an affected utility shall maintain a minimum of 35 psi throughout the distribution system during an extended power outage.

(s) Testing equipment. Accurate testing equipment or some other means of monitoring the effectiveness of any chemical treatment or pathogen inactivation or removal processes must be used by the system.

(1) Flow measuring devices and rate-of-flow controllers that are required by §290.42(d) of this title (relating to Water Treatment) shall be calibrated at least once every 12 months. Well meters required by §290.41(c)(3)(N) of this title (relating to Water Sources) shall be calibrated at least once every three years.

(2) Laboratory equipment used for compliance testing shall be properly calibrated.

(A) pH meters shall be properly calibrated.

(i) Benchtop pH meters shall be calibrated according to manufacturers specifications at least once each day.

(ii) The calibration of benchtop pH meters shall be checked with at least one buffer each time a series of samples is run, and if necessary, recalibrated according to manufacturers specifications.

(iii) On-line pH meters shall be calibrated according to manufacturer specifications at least once every 30 days.

(iv) The calibration of on-line pH meters shall be checked at least once each week with a primary standard or by comparing the results from the on-line unit with the results from a properly calibrated benchtop unit. If necessary, the on-line unit shall be recalibrated with primary standards.

(B) Turbidimeters shall be properly calibrated.

(i) Benchtop turbidimeters shall be calibrated with primary standards at least once every 90 days. Each time the turbidimeter is calibrated with primary standards, the secondary standards shall be restandardized.

(ii) The calibration of benchtop turbidimeters shall be checked with secondary standards each time a series of samples is tested, and if necessary, recalibrated with primary standards.

(iii) On-line turbidimeters shall be calibrated with primary standards at least once every 90 days.

(iv) The calibration of on-line turbidimeters shall be checked at least once each week with a primary standard, a secondary standard, or the manufacturer's proprietary calibration confirmation device or by comparing the results from the on-line unit with the results from a properly calibrated benchtop unit. If necessary, the on-line unit shall be recalibrated with primary standards.

(C) Chemical disinfectant residual analyzers shall be properly calibrated.

EXHIBIT 1

(i) The accuracy of manual disinfectant residual analyzers shall be verified at least once every 30 days using chlorine solutions of known concentrations.

(ii) Continuous disinfectant residual analyzers shall be calibrated at least once every 90 days using chlorine solutions of known concentrations.

(iii) The calibration of continuous disinfectant residual analyzers shall be checked at least once each month with a chlorine solution of known concentration or by comparing the results from the on-line analyzer with the result of approved benchtop amperometric, spectrophotometric, or titration method.

(D) Ultraviolet (UV) light disinfection analyzers shall be properly calibrated.

(i) The accuracy of duty UV sensors shall be verified with a reference UV sensor monthly, according to the UV sensor manufacturer.

(ii) The reference UV sensor shall be calibrated by the UV sensor manufacturer on a yearly basis, or sooner if needed.

(iii) If used, the Ultraviolet Transmittance (UVT) analyzer shall be calibrated weekly according to the UVT analyzer manufacturer specifications.

(E) Systems must verify the performance of direct integrity testing equipment in a manner and schedule approved by the executive director.

(t) System ownership. All community water systems shall post a legible sign at each of its production, treatment, and storage facilities. The sign shall be located in plain view of the public and shall provide the name of the water supply and an emergency telephone number where a responsible official can be contacted.

(u) Abandoned wells. Abandoned public water supply wells owned by the system must be plugged with cement according to 16 Texas Administrative Code (TAC) Chapter 76 (relating to Water Well Drillers and Water Well Pump Installers). Wells that are not in use and are non-deteriorated as defined in those rules must be tested every five years or as required by the executive director to prove that they are in a non-deteriorated condition. The test results shall be sent to the executive director for review and approval. Deteriorated wells must be either plugged with cement or repaired to a non-deteriorated condition.

(v) Electrical wiring. All water system electrical wiring must be securely installed in compliance with a local or national electrical code.

(w) Security. All systems shall maintain internal procedures to notify the executive director by a toll-free reporting phone number immediately of the following events, if the event may negatively impact the production or delivery of safe and adequate drinking water:

(1) an unusual or unexplained unauthorized entry at property of the public water system;

(2) an act of terrorism against the public water system;

(3) an unauthorized attempt to probe for or gain access to proprietary information that supports the key activities of the public water system;

(4) a theft of property that supports the key activities of the public water system; or

(5) a natural disaster, accident, or act that results in damage to the public water system.

(x) Public safety standards. This subsection only applies to a municipality with a population of 1,000,000 or more, with a public utility within its corporate limits.

(1) In this subsection:

(A) "Regulatory authority" means, in accordance with the context in which it is found, either the commission or the governing body of a municipality.

(B) "Public utility" means any person, corporation, cooperative corporation, affected county, or any combination of these persons or entities, other than a municipal corporation, water supply or sewer service corporation, or a political subdivision of the state, except an affected county, or their lessees, trustees, and receivers, owning or operating for compensation in this state equipment or facilities for the transmission, storage, distribution, sale, or provision of potable water to the public or for the resale of potable water to the public for any use or for the collection, transportation, treatment, or disposal of sewage or other operation of a sewage disposal service for the public, other than equipment or facilities owned and operated for either purpose by a municipality or other political subdivision of this state or a water supply or sewer service corporation, but does not include any person or corporation not otherwise a public utility that furnishes the services or commodity only to itself or its employees or tenants as an incident of that employee service or tenancy when that service or commodity is not resold to or used by others.

(C) "Residential area" means:

(i) an area designated as a residential zoning district by a governing ordinance or code or an area in which the principal land use is for private residences;

(ii) a subdivision for which a plat is recorded in the real property records of the county and that contains or is bounded by public streets or parts of public streets that are abutted by residential property occupying at least 75% of the front footage along the block face; or

(iii) a subdivision a majority of the lots of which are subject to deed restrictions limiting the lots to residential use.

(2) When the regulatory authority is a municipality, it shall by ordinance adopt standards for installing fire hydrants in residential areas in the municipality. These standards must, at a minimum, follow current AWWA standards pertaining to fire hydrants and the requirements of §290.44(e)(6) of this title.

(3) When the regulatory authority is a municipality, it shall by ordinance adopt standards for maintaining sufficient water pressure for service to fire hydrants adequate to protect public safety in residential areas in the municipality. The standards specified in paragraph (4) of this subsection are the minimum acceptable standards.

(4) A public utility shall deliver water to any fire hydrant connected to the public utility's water system located in a residential area so that the flow at the fire hydrant is at least 250 gallons per minute for a minimum period of two hours while maintaining a minimum pressure of 20 psi throughout the distribution system during emergencies such as fire fighting. That flow is in addition to the public utility's maximum daily demand for purposes other than firefighting.

(5) When the regulatory authority is a municipality, it shall adopt the standards required by this subsection within one year of the effective date of this subsection or within one year of the date this subsection first applies to the municipality, whichever occurs later.

(6) A public utility shall comply with the standards established by a municipality under both paragraphs (2) and (3) of this sub-

EXHIBIT 1

section within one year of the date the standards first apply to the public utility. If a municipality has failed to comply with the deadline required by paragraph (5) of this subsection, then a public utility shall comply with the standards specified in paragraphs (2) and (4) of this subsection within two years of the effective date of this subsection or within one year of the date this subsection first applies to the public utility, whichever occurs later.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Director, Environmental Law Division
Texas Commission on Environmental Quality
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SUBCHAPTER F. PUBLIC DRINKING STANDARDS GOVERNING DRINKING WATER QUALITY AND REPORTING REQUIREMENTS FOR PUBLIC WATER SYSTEMS

30 TAC §§290.111 - 290.115, 290.117, 290.119, 290.121, 290.122

STATUTORY AUTHORITY

The amendments and new section are adopted under Texas Water Code (TWC), §5.102, which establishes the commission's general authority necessary to carry out its jurisdiction; §5.103, which establishes the commission's general authority to adopt rules; §5.105, which establishes the commission's authority to set policy by rule; and Texas Health and Safety Code (THSC), §341.031, which allows the commission to adopt rules to implement the federal Safe Drinking Water Act, 42 United States Code, §§300f to 300j-26; and THSC, §341.0315, which requires public water systems to comply with commission rules adopted to ensure the supply of safe drinking water.

The adopted amendments and new section implement TWC, §§5.102, 5.103, and 5.105, and THSC, §341.031 and §341.0315.

§290.112. Total Organic Carbon (TOC).

(a) Applicability. All community and nontransient, noncommunity public water systems that treat surface water or groundwater under the direct influence of surface water and use coagulation or flocculation or sedimentation or clarification facilities as part of the treatment process must meet the provisions of this section.

(b) Treatment technique. Systems must achieve the Step 1 removal requirements in paragraph (1) of this subsection, meet one of the alternative compliance criteria described in paragraph (2) of this subsection, or apply for the alternative Step 2 removal requirements described in paragraph (3) of this subsection.

(1) Systems must determine their ability to meet the Step 1 removal requirements given in the following table. A water treatment plant's Step 1 total organic carbon (TOC) required percent removal is based upon plant's source water TOC and alkalinity. Step 1 TOC percent removal requirements are indicated in the following table. Systems practicing softening are evaluated based on the Step 1 TOC removal in the far-right column (Source water alkalinity >120 milligrams per liter (mg/L)) for the specified source water TOC.
Figure: 30 TAC §290.112(b)(1) (No change.)

(2) Systems may determine their ability to meet one of the eight alternative compliance criteria listed in this paragraph.

(A) A system meets alternative compliance criteria Number 1 if the system's source water TOC level is less than 2.0 mg/L, calculated quarterly as a running annual average.

(B) A system meets alternative compliance criteria Number 2 if the system's treated water TOC level is less than 2.0 mg/L, calculated quarterly as a running annual average.

(C) A system meets alternative compliance criteria Number 3 if: the system's source water TOC level is less than 4.0 mg/L, calculated quarterly as a running annual average; the source water alkalinity is greater than 60 mg/L (as calcium carbonate (CaCO3), calculated quarterly as a running annual average; and the total trihalomethanes (TTHM) and haloacetic acid-group of five (HAA5) running annual averages are no greater than 0.040 mg/L and 0.030 mg/L, respectively.

(D) The system meets alternative compliance criteria Number 4 if the TTHM and HAA5 running annual averages are no greater than 0.040 mg/L and 0.030 mg/L, respectively, and the system uses only chlorine for primary disinfection and maintenance of a residual in the distribution system.

(E) The system meets alternative compliance criteria Number 5 if the system's source water specific ultraviolet absorbance (SUVA), prior to any treatment, measured monthly, is less than or equal to 2.0 liters per milligram-meter (L/mg-m), calculated quarterly as a running annual average.

(F) The system meets alternative compliance criteria Number 6 if the system's finished water SUVA, measured monthly at a point prior to any disinfection, is less than or equal to 2.0 L/mg-m, calculated quarterly as a running annual average.

(G) The system meets alternative compliance criteria Number 7 if the system practices softening, cannot achieve the Step 1 TOC removals required by paragraph (1) of this subsection, and has treated water alkalinity less than 60 mg/L (as CaCO3) and calculated quarterly as a running annual average.

(H) The system meets alternative compliance criteria Number 8 if the system practices softening, cannot achieve the Step 1 TOC removals required by paragraph (1) of this subsection, and has magnesium hardness removal greater than or equal to 10 mg/L (as CaCO3), measured monthly calculated quarterly as a running annual average.

(3) If a system fails to meet the Step 1 TOC removal requirement required by paragraph (1) of this subsection and does not meet one of eight alternative compliance criteria described in paragraph (2) of this subsection, the system must apply to the executive director for approval of Step 2 removal requirements.

(A) The plant must perform Step 2 jar testing to determine the coagulant dose at which the removal of TOC is less than 0.3 mg/L for an increase in coagulant of 10 mg/L alum or its equivalent. This dose is referred to as the point of diminishing returns (PODR).

(B) The system must submit the results of the Step 2 jar testing to the executive director for approval of the alternative removal requirements at least 15 days before the end of the applicable quarter.

EXHIBIT 1

(C) The executive director may approve Step 2 alternative removal requirements.

(i) If approved, the removal achieved at the PODR becomes the alternative full-scale TOC removal requirement for the plant.

(ii) The alternate removal requirements may be applied to the quarter in which the jar test results are received and for the following quarter.

(c) TOC monitoring requirements. Systems must conduct required TOC monitoring during normal operating conditions at sites and at the frequency designated in the system's monitoring plan.

(1) Systems must monitor for TOC and alkalinity in the source water prior to any treatment. Between one and eight hours after taking the source water sample, systems must measure each treatment plant TOC after filtration in the combined filter effluent stream. These samples (source water alkalinity, source water TOC, and treated water TOC) are referred to as a TOC sample set.

(2) Systems must take one TOC sample set monthly (every 30 days) at a time representative of normal operating conditions and influent water quality. With the executive director's approval, a system may reduce monitoring according to subparagraphs (A) - (C) of this paragraph.

(A) Systems with a running annual average treated water TOC of less than 2.0 mg/L for two consecutive years may reduce monitoring to one TOC sample set per plant per quarter (every 90 days). The system must revert to routine monitoring in the month following the quarter when the running annual average treated water TOC is greater than or equal to 2.0 mg/L.

(B) Systems with a running annual average treated water TOC of less than 1.0 mg/L for one year may reduce monitoring to one TOC sample set per plant per quarter (every 90 days). The system must revert to routine monitoring in the month following the quarter when the running annual average treated water TOC is greater than or equal to 2.0 mg/L.

(C) Systems with a running annual average source water TOC at each plant of less than or equal to 4.0 mg/L based on the running annual average of the most recent four quarters of monitoring may reduce source TOC monitoring to one source TOC sample per quarter (every 90 days) if they also meet criteria for reduced disinfection byproduct monitoring. In order to remain on quarterly source TOC monitoring, the system must also meet the criteria for reduced trihalomethane and haloacetic acid monitoring given in §290.113(c)(4) of this title (relating to Stage 1 Disinfection Byproducts (TTHM and HAA5)) until the date shown in table §290.113(a)(2) of this title. After the date shown in §290.115(a)(2) of this title (relating to Stage 2 Disinfection Byproducts (TTHM and HAA5)), the system must also meet the criteria for reduced trihalomethane and haloacetic acid monitoring in §290.115(c)(3) of this title in order to remain on quarterly source TOC monitoring. The system must revert to routine monitoring in the first month following the quarter when the running annual average source water TOC is greater than 4.0 mg/L, or the system no longer meets the reduced monitoring criteria for disinfection byproducts.

(3) A public water system attempting to meet the treatment technique requirements for TOC using alternative compliance criteria Number 5 (as defined in subsection (b)(2)(E) of this section) must monitor for SUVA in the source water prior to any treatment at least once each month.

(4) A public water system attempting to meet the treatment technique requirements for TOC using alternative compliance criteria Number 7 (as defined in subsection (b)(2)(G) of this section) must monitor for alkalinity in the treated water at any point prior to distribution system at least once each month.

(5) A public water system attempting to meet the treatment technique requirements for TOC using alternative compliance criteria Number 8 (as defined in subsection (b)(2)(H) of this section) must monitor for magnesium in both the source water prior to any treatment at and the treated water at any point prior to the distribution system least once each month.

(d) Analytical requirements for TOC treatment. Analytical procedures required by this section must be conducted at a facility approved by the executive director and using methods that conform to the requirements of §290.119 of this title (relating to Analytical Procedures).

(e) Reporting requirements for TOC. Systems treating surface water or groundwater under the direct influence of surface water shall properly complete and submit periodic reports to demonstrate compliance with this section.

(1) The reports must be submitted to the Water Supply Division, MC 155, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087 by the tenth day of the month following the end of the reporting period.

(2) Public water systems must submit a Monthly Operational Report for Total Organic Carbon (commission Form 0879) each month.

(3) A system that does not meet the Step 1 removal requirements must submit a Request for Alternate TOC Requirements at least 15 days before the end of the quarter.

(A) If the system meets alternative compliance criterion Number 3, subsection (b)(2)(C) of this section, the system must report the running annual average TTHM and HAA5 concentrations as determined under the requirements of §290.113 of this title.

(B) If the system meets alternative compliance criterion Number 4, subsection (b)(2)(D) of this section, the system must report the running annual average TTHM and HAA5 concentrations as determined under the requirements of §290.113 of this title or §290.115 of this title, and report all disinfectants used by the system during last 12 months.

(C) If the system meets alternative compliance criterion Number 5, subsection (b)(2)(E) of this section, the system must report the average source water SUVA for each of the preceding 12 months.

(D) If the system meets alternative compliance criterion Number 6, subsection (b)(2)(F) of this section, the system must report the average treated water SUVA for each of the preceding 12 months.

(E) If the system practices softening and meets alternative compliance criterion Number 8, subsection (b)(2)(H) of this section, the system must report the source water and treated water magnesium concentrations and the average percent removal of magnesium obtained during each of the preceding 12 months.

(F) A system that does not meet any of the alternative compliance criteria must apply for the Step 2 alternative removal requirements and must submit the results of Step 2 jar testing.

(f) Compliance determination. Compliance with the requirements of this section shall be based on the following criteria:

(1) A system that fails to conduct the monitoring tests required by this section commits a monitoring violation. Failure to mon-

EXHIBIT 1

itor will be treated as a violation for the entire period covered by the annual average.

(2) A system that fails to report the results of monitoring tests required by this section commits a reporting violation. Systems may use only data collected under the provisions of this section to qualify for reduced monitoring.

(3) A system that does not meet any of the alternative compliance criteria and does not achieve the required TOC removal commits a treatment technique violation. Compliance shall be determined quarterly by determining an annual average removal ratio using the following method:

(A) The actual monthly TOC percent removal must be determined for each month. The actual removal for a TOC sample set is equal to (1 - treated water TOC/source water TOC). The actual monthly percent removal is calculated by taking average removal for all TOC sample sets collected in the month, and expressing that value as a percent.

(B) The required monthly Step 1 or Step 2 TOC percent removal must be determined as provided in subsection (b) of this section. The executive director will approve or disapprove Step 2 requirements based on jar or pilot data. Until the executive director approves the Step 2 TOC removal requirements, the system must meet the Step 1 TOC removals contained in subsection (b)(1) of this section.

(C) The monthly removal ratio must be determined. The monthly removal ratio is determined by dividing the actual monthly TOC percent removal for each month by the required monthly Step 1 or approved Step 2 TOC percent removal for the month. The alternative compliance criteria may be used on a monthly basis as described in clauses (i) - (iv) of this subparagraph.

(i) If the monthly average source or treated water TOC is less than 2.0 mg/L, a monthly removal ratio value of 1.0 may be assigned (in lieu of the value calculated in subparagraph (C) of this paragraph) when calculating compliance under the provisions of this section.

(ii) If the monthly average water source or treated SUVA level is less than 2.0 L/mg-m, a monthly removal ratio value of 1.0 may be assigned (in lieu of the value calculated in subparagraph (C) of this paragraph) when calculating compliance under the provisions of this section.

(iii) In any month that a softening system lowers alkalinity below 60 mg/L (as CaCO3), a monthly removal ratio value of 1.0 may be assigned (in lieu of the value calculated in subparagraph (C) of this paragraph) when calculating compliance under the provisions of this section.

(iv) In any month that a softening system removes at least 10 mg/L of magnesium hardness (as CaCO3) a monthly value of 1.0 may be assigned (in lieu of the value calculated in subparagraph (C) of this paragraph) when calculating compliance under the provisions of this section.

(D) The yearly removal ratio must be determined. The yearly removal ratio is the running annual average of the quarterly averages of the monthly averages. To determine this value, for each quarter in the compliance year, determine the monthly removal ratio, add the removal ratios and divide by three. Then, add the quarterly removal ratio and divide by four.

(E) If the yearly removal ratio is less than 1.00, the system commits a treatment technique violation.

(4) A public water system that fails to do a required public notice or certify that the public notice has been performed commits a public notice violation.

(g) Public Notification. A public water system that violates the treatment technique requirements of this section must notify the executive director and the system's customers.

(1) A public water system that commits a TOC treatment technique violation shall notify the executive director and the water system customers in accordance with the requirements of §290.122(b) of this title (relating to Public Notification).

(2) A public water system which fails to conduct the monitoring required by this section must notify its customers of the violation in accordance with the requirements of §290.122(c) of this title.

§290.113. Stage 1 Disinfection Byproducts (TTHM and HAA5).

(a) Applicability for total trihalomethanes (TTHM) and haloacetic acids (group of five) (HAA5). All community and nontransient, noncommunity water systems shall comply with the requirements of this section.

(1) Systems must comply with the Stage 1 requirements in this section until the date shown in the table entitled "Date to Start Stage 2 Compliance."

(2) Until the date shown in the table in paragraph (1) of this subsection, systems must continue to monitor according to this section.
Figure: 30 TAC §290.113(a)(2)

(b) Maximum contaminant level (MCL) for TTHM and HAA5. The running annual average concentration of TTHM and HAA5 shall not exceed the MCLs.

(1) The MCL for TTHM is 0.080 milligrams/liter (mg/L).

(2) The MCL for HAA5 is 0.060 mg/L.

(c) Monitoring requirements for TTHM and HAA5. Systems must take all TTHM and HAA5 samples during normal operating conditions. Monitoring shall be performed at locations and frequency specified in the system's monitoring plan.

(1) The minimum number of samples required to be taken shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer shall be considered as one treatment plant for determining the minimum number of samples.

(2) All samples taken within one sampling period shall be collected within a 24-hour period.

(3) Systems must routinely sample at the frequency and locations given in the following table entitled "Stage 1 Routine Monitoring Frequency and Locations for TTHM and HAA5."
Figure: 30 TAC §290.113(c)(3) (No change.)

(4) The executive director may reduce the monitoring frequency for TTHM and HAA5 as indicated in the following table entitled "Stage 1 Reduced Monitoring Frequency and Locations for TTHM and HAA5."
Figure: 30 TAC §290.113(c)(4) (No change.)

(A) The executive director may not reduce the routine monitoring requirements for TTHM and HAA5 until a system has completed one year of routine monitoring in accordance with the provisions of paragraph (3) of this subsection.

(B) A system that is on reduced monitoring and collects quarterly samples for TTHM and HAA5 may remain on reduced monitoring as long as the running annual average of quarterly averages for

EXHIBIT 1

TTHM and HAA5 is no greater than 0.060 mg/L and 0.045 mg/L, respectively, and as long as it meets the requirements in subparagraph (D) of this paragraph.

(C) A system that is on a reduced monitoring and monitors no more frequently than once each year may remain on reduced monitoring as long as TTHM and HAA5 concentrations are no greater than 0.060 mg/L and 0.045 mg/L, respectively, and as long as it meets the requirements in subparagraph (D) of this paragraph.

(D) To remain on reduced TTHM and HAA5 monitoring, systems that treat surface water or groundwater under the direct influence of surface water must also maintain a source water annual average total organic carbon (TOC) level, before any treatment, less than or equal to 4.0 mg/L (based on the most recent four quarters of monitoring) on a continuing basis at each plant.

(5) The executive director may require a system to return to the routine monitoring frequency described in paragraph (3) of this subsection.

(A) A system that does not meet the requirements of paragraph (4)(B), (C) or (D) of this subsection must return to routine monitoring in the quarter immediately following the quarter in which the results exceed 0.060 mg/L or 0.045 mg/L for TTHMs and HAA5, respectively, or when the source water annual average TOC level, before any treatment, exceeds 4.0 mg/L at any plant.

(B) A system that is on reduced monitoring and makes any significant change to its source of water or treatment program shall return to routine monitoring in the quarter immediately following the quarter when the change was made.

(C) If a system is returned to routine monitoring, routine monitoring shall continue for at least one year before a reduction in monitoring frequency may be considered.

(D) The executive director may return a system on reduced monitoring to routine monitoring at any time.

(6) Systems monitoring no more frequently than once each year must increase their monitoring frequency to quarterly if either the TTHM annual average is >0.080 mg/L or the HAA5 annual average is >0.060 mg/L. The system must begin monitoring quarterly immediately following the monitoring period in which the system exceeds 0.080 mg/L or 0.060 mg/L for TTHMs or HAA5, respectively.

(d) Analytical requirements for TTHM and HAA5. Analytical procedures required by this section shall be performed in accordance with §290.119 of this title (relating to Analytical Procedures). Testing for TTHM and HAA5 shall be performed at a laboratory accredited by the executive director.

(e) Reporting requirements for TTHM and HAA5. Upon the request of the executive director, the owner or operator of a public water system must provide the executive director with a copy of the results of any test, measurement, or analysis required by this subsection. The copies must be submitted within ten days of the request or within ten days of their receipt by the public water system, whichever is later. The copies must be mailed to the Water Supply Division, MC 155, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087.

(f) Compliance determination for TTHM and HAA5. Compliance with the provisions of this section shall be determined as follows.

(1) A system that fails to monitor in accordance with this section commits a monitoring violation. Failure to monitor will be treated as a violation for the entire period covered by the annual average.

(2) A public water system that fails to report the results of the monitoring tests required by subsection (e) of this section commits a reporting violation.

(3) Compliance with the MCLs for TTHM and HAA5 shall be based on the running annual average of all samples collected during the preceding 12 months.

(A) A public water system that samples for TTHM and HAA5 each quarter must calculate the running annual average of the quarterly averages.

(B) A public water system that samples for TTHM and HAA5 no more frequently than once each year must calculate the annual average of all samples collected during the year.

(C) All samples collected at the sampling sites designated in the public water system's monitoring plan shall be used to compute the quarterly and annual averages unless the analytical results are invalidated by the executive director for technical reasons.

(4) A public water system violates the MCL for TTHM if the running annual average for TTHM exceeds the MCL specified in subsection (b)(1) of this section.

(5) A public water system violates the MCL for HAA5 if the running annual average for HAA5 exceeds the MCL specified in subsection (b)(2) of this section.

(6) If a public water system is routinely sampling in accordance with the requirements of subsection (c)(3) of this section and an individual sample or quarterly average will cause the system to exceed the MCL for TTHM or HAA5, the system is in violation of the respective MCL at the end of that quarter.

(7) If a public water system's failure to monitor makes it impossible to determine compliance with the MCL for TTHM or HAA5, the system commits an MCL violation for the entire period covered by the annual average.

(g) Public Notification Requirements for TTHM and HAA5. A public water system that violates the treatment technique requirements of this section must notify the executive director and the system's customers.

(1) A public water system that violates an MCL given in subsection (b)(1) or (2) of this section shall report to the executive director and the water system customers in accordance with the requirements of §290.122(b) of this title (relating to Public Notification).

(2) A public water system which fails to conduct the monitoring required by subsection (c) of this section must notify its customers of the violation in accordance with the requirements of §290.122(c) of this title.

(h) Best available technology for TTHM and HAA5. Best available technology for treatment of violations of MCLs in subsection (b) of this section are listed in 40 Code of Federal Regulations §141.64(b)(1)(ii).

§290.115. Stage 2 Disinfection Byproducts (TTHM and HAA5).

(a) Applicability for total trihalomethanes (TTHM) and haloacetic acids (group of five) (HAA5). All community and nontransient, noncommunity water systems shall comply with the requirements of this section for TTHM and HAA5.

(1) Systems must comply with the initial monitoring requirements starting on the dates given in subsection (c) of this section.

(2) Systems must comply with all of the additional requirements in this section starting on the date shown in the table entitled "Date to Start Stage 2 Compliance."

EXHIBIT 1

Figure: 30 TAC §290.115(a)(2)

(A) Systems required to conduct quarterly monitoring, must begin monitoring in the first full calendar quarter that includes the compliance date in the table titled "Date to Start Stage 2 Compliance."

(B) Systems required to conduct routine monitoring less frequently than quarterly must begin monitoring in the calendar month approved by the executive director in their Initial Distribution System Evaluation (IDSE) report or revised monitoring plan identifying Stage 2 sample sites.

(3) Systems must complete their monitoring plan for the additional Stage 2 TTHM and HAA5 requirements according to §290.121 of this title (relating to Monitoring Plans) before the date shown in the table entitled "Date to Start Stage 2 Compliance."

(b) Maximum contaminant levels (MCL) and operational evaluation levels (OELs) for TTHM and HAA5. Systems shall comply with MCLs and OELs.

(1) The locational running annual average (LRAA) concentration of TTHM and HAA5 shall not exceed the maximum contaminant levels. A public water system that exceeds a MCL shall determine compliance as described in subsection (f) of this section.

(A) The MCL for TTHM is 0.080 milligrams/liter (mg/L).

(B) The MCL for HAA5 is 0.060 mg/L.

(2) The OEL at any monitoring location is the sum of the two previous quarters' results plus twice the current quarter's result, divided by 4 to determine an average. A public water system that exceeds an OEL shall perform operation evaluation monitoring and reporting described in subsection (e) of this section.

(A) The OEL for TTHM is 0.080 mg/L.

(B) The OEL for HAA5 is 0.060 mg/L.

(c) Monitoring requirements for TTHM and HAA5. Monitoring shall be performed at locations and frequency specified in the system's monitoring plan as approved by the executive director. The executive director may require changes to a system's sampling locations. The executive director may require sampling at additional sampling locations.

(1) Monitoring locations. Systems must establish Stage 2 compliance monitoring sites throughout the distribution system at locations with the potential for relatively high disinfection byproduct formation. Systems must determine Stage 2 compliance monitoring locations by the dates shown in the table titled "Date to Establish Stage 2 Sites."
Figure: 30 TAC §290.115(c)(1) (No change.)

(A) Systems that perform IDSE sampling in accordance with paragraph (5) of this subsection must use the IDSE and Stage 1 results to set Stage 2 compliance monitoring sites.

(B) Systems that do not perform IDSE sampling must set Stage 2 compliance monitoring sites through consultation with the executive director in accordance with this subparagraph.

(i) Systems required to sample at the same number of sites under Stage 1 and Stage 2, can use the Stage 1 sites for Stage 2 compliance monitoring.

(ii) Systems required to sample at more sites under Stage 2 than Stage 1 must identify Stage 2 sites in addition to the existing Stage 1 sites. Systems must identify additional sites representing areas of the distribution system with potentially high TTHM or HAA5 levels and provide the rationale for identifying these locations as having high levels of TTHM or HAA5. The required number of compliance monitoring locations must be identified.

(iii) Systems required to sample at fewer sites under Stage 2 than Stage 1 must identify which locations will be used for Stage 2. Stage 2 sites will be selected by alternating selection of Stage 1 locations representing the highest TTHM levels and highest HAA5 levels until the required number of compliance monitoring locations have been identified.

(C) The protocol given in Title 40 Code of Federal Regulations (40 CFR) §141.605(c) - (e) for selecting Stage 2 sample sites is hereby adopted by reference.

(D) To change monitoring locations, a system must replace existing compliance monitoring locations with the lowest LRAA with new locations that reflect the current distribution system locations with expected high TTHM or HAA5 levels. Changes must be approved by the executive director and included in the monitoring plan.

(2) Monitoring frequency and number of sample sites. Routine sampling frequency and number of sample sites are given in the following table, titled "Routine Stage 2 Monitoring Frequency and Number of Sites." Systems must take all routine compliance TTHM and HAA5 samples during normal operating conditions.
Figure: 30 TAC §290.115(c)(2)

(3) Reduced monitoring for TTHM and HAA5. Monitoring may be reduced when the LRAA is less than or equal to 0.040 mg/L for TTHM and less than or equal to 0.030 mg/L for HAA5 at all Stage 2 compliance monitoring locations. The Stage 2 reduced sampling frequency and number of sample sites are given in the following table, titled "Reduced Stage 2 Monitoring Frequency and Number of Sites."
Figure: 30 TAC §290.115(c)(3) (No change.)

(A) Only data collected under the provisions of §290.113 of this title (relating to Stage 1 Disinfection Byproducts (TTHM and HAA5)) and under this section may be used to qualify for reduced monitoring.

(B) In order to remain on reduced monitoring, a system must meet the applicable conditions of this subparagraph.

(i) Systems with annual or less frequent reduced monitoring qualify to remain on reduced monitoring as long as each TTHM sample is less than or equal to 0.060 mg/L and each HAA5 sample is less than or equal to 0.045 mg/L.

(ii) Systems on quarterly reduced monitoring qualify to remain on reduced monitoring as long as the TTHM LRAA is less than or equal to 0.040 mg/L and the HAA5 LRAA is less than or equal to 0.030 mg/L at each monitoring location.

(iii) To qualify for and remain on reduced monitoring, the source water annual average Total Organic Carbon (TOC) level, before any treatment, must be less than or equal to 4.0 mg/L at each treatment plant treating surface water or groundwater under the direct influence of surface water, based on monitoring conducted under §290.112(c)(2)(C) of this title (relating to Total Organic Carbon (TOC)).

(C) Systems will be returned to routine monitoring:

(i) if the LRAA at any monitoring location exceeds either 0.040 mg/L for TTHM or 0.030 mg/L for HAA5 based on quarterly monitoring, or

(ii) if the annual (or triennial) sample at any location exceeds either 0.060 mg/L for TTHM or 0.045 mg/L for HAA5, or

EXHIBIT 1

(iii) if the source water annual average TOC level, before any treatment, exceeds 4.0 mg/L at any treatment plant treating surface water or groundwater under the direct influence of surface water.

(D) The executive director may return a system on reduced monitoring to routine monitoring at any time.

(E) A system that is on reduced Stage 1 monitoring in accordance with §290.113(c)(4) of this title that has monitoring locations for Stage 2 different from those under Stage 1 must initiate routine monitoring in accordance with paragraph (2) of this subsection on the schedule given in subsection (a) of this section.

(F) A system that is on reduced monitoring in accordance with §290.113(c)(4) of this title may remain on reduced monitoring after the dates identified in subsection (a)(2) of this section only if the system:

(i) received a very small system (VSS) IDSE waiver under paragraph (5)(A) of this subsection or received a 40/30 IDSE waiver under paragraph (5)(B) of this subsection, and

(ii) meets the reduced monitoring criteria in subparagraph (B) of this paragraph, and

(iii) is approved to use the same monitoring locations under Stage 1 and Stage 2.

(G) The executive director may choose to perform calculations and determine whether the system is eligible for reduced monitoring in lieu of having the system report that information.

(4) Increased monitoring for TTHM and HAA5. The executive director may increase monitoring in accordance with this paragraph.

(A) A system required to routinely monitor at a particular location annually or less frequently than annually under paragraph (2) of this subsection must increase monitoring to quarterly dual sample sets (every 90 days) at all locations if any TTHM compliance sample is greater than 0.080 mg/L or if any HAA5 compliance sample is greater than 0.060 mg/L at any location.

(B) The executive director may return a system on increased quarterly monitoring to routine monitoring after at least four consecutive quarters if the LRAA for every monitoring location is less than or equal to 0.060 mg/L for TTHM and less than or equal to 0.045 mg/L for HAA5.

(C) A system that is on increased monitoring under §290.113 of this title must remain on increased monitoring until the system qualifies for a return to routine monitoring under subparagraph (B) of this paragraph. The increased monitoring schedule must be conducted at the Stage 2 monitoring locations approved under paragraph (1) of this subsection, beginning on the date identified in subsection (a)(2) of this section.

(5) Initial Distribution System Evaluation (IDSE) requirements. All community systems of any size and nontransient noncommunity systems that serve at least 10,000 people must comply with these IDSE requirements.

(A) The executive director may grant a VSS IDSE monitoring waiver to systems that serve fewer than 500 people. Systems that receive a VSS IDSE monitoring waiver are not required to do IDSE monitoring. Systems must be compliant with all of the Stage 1 monitoring requirements of §290.113 of this title to be eligible for a VSS IDSE waiver.

(B) The executive director may grant a 40/30 IDSE monitoring waiver to IDSE monitoring to systems with levels for TTHM less than 0.040 mg/L and levels for HAA5 less than 0.030 mg/L. Systems that receive a 40/30 IDSE monitoring waiver are not required to do IDSE monitoring. Systems must be compliant with all of the Stage 1 monitoring requirements of §290.113 of this title to be eligible for a 40/30 IDSE waiver. The timing of samples that all need to be less than 0.040 mg/L and 0.030 mg/L respectively for TTHM and HAA5 are given in the following table, titled "Timing of Stage 1 Samples Evaluated for 40/30 Waiver."
Figure: 30 TAC §290.115(c)(5)(B)

(i) To qualify for a 40/30 IDSE waiver a system must certify to the executive director that every individual sample taken under §290.113 of this title were less than 0.040 mg/L for TTHM and less than 0.030 mg/L for HAA5, and must have not had any TTHM or HAA5 monitoring violations during the period specified in subsection (a) of this section.

(ii) To qualify for a 40/30 IDSE waiver, a system must submit compliance monitoring results, distribution system schematics, and recommended Stage 2 compliance monitoring locations to the executive director upon request. The executive director may require a system that fails to submit the requested information to perform IDSE sampling.

(iii) The executive director may still require a system that meets the 40/30 IDSE waiver or VSS IDSE waiver requirements to do IDSE sampling under subparagraph (C) of this paragraph.

(C) Systems that must perform IDSE sampling must submit any needed documentation for waivers, produce an IDSE Plan, do IDSE sampling, and report the IDSE results to the executive director on the schedule in the following table titled "IDSE Schedule."
Figure: 30 TAC §290.115(c)(5)(C)

(i) The IDSE plan has required elements.

(I) The IDSE plan must include a schematic of the distribution system (including distribution system entry points and their sources, and storage facilities), with notes indicating locations and dates of all projected standard monitoring, and also Stage 1 compliance monitoring under §290.113 of this title.

(II) The IDSE plan must include justification of IDSE monitoring location selection and a summary of data used to justify IDSE monitoring location selection.

(III) The IDSE plan must include the system type and population served by the system.

(ii) Systems must do required IDSE sampling in accordance with this clause.

(I) Systems must monitor at the number and type of sites indicated in the following table titled "Number and Type of IDSE Sample Sites:"
Figure: 30 TAC §290.115(c)(5)(C)(ii)(I)

(II) Systems must collect dual sample sets at each monitoring location. One sample in the dual sample set must be analyzed for TTHM. The other sample in the dual sample set must be analyzed for HAA5.

(III) IDSE sample locations must be different than the existing Stage 1 monitoring locations established under §290.113 of this title.

(IV) IDSE sample locations must be distributed throughout the distribution system.

EXHIBIT 1

(V) Systems must monitor at the frequency indicated in the following table titled "Frequency of IDSE Monitoring:" Figure: 30 TAC §290.115(c)(5)(C)(ii)(V)

(VI) The IDSE monitoring frequency and locations may not be reduced.

(iii) The IDSE report must comply with the elements in this clause.

(I) The IDSE report must include all TTHM and HAA5 analytical results from Stage 1 compliance monitoring under §290.113 of this title and all IDSE sample results and locational running annual averages presented in a tabular or spreadsheet format acceptable as described in TCEQ regulatory guidance number 384: "How to Develop a Monitoring Plan for a Public Water System."

(II) If changed from the IDSE plan submitted under clause (ii) of this subparagraph, the IDSE report must also include an updated distribution system map, documentation verifying the population served, and an updated list of sources including their water type.

(III) The IDSE report must include an explanation of any deviations from the approved IDSE plan.

(IV) The IDSE report must recommend and justify Stage 2 compliance monitoring locations consistent with paragraph (1) of this subsection. The recommended Stage 2 compliance monitoring locations must be listed in a Stage 2 sample plan as part of the system's monitoring plan.

(V) The IDSE report must include recommendations and justification for when Stage 2 samples should be collected.

(iv) The executive director may approve a system specific study that meets the requirements in 40 CFR §141.602 to comply with IDSE sampling requirements. The commission hereby adopts the requirements of 40 CFR §141.602 by reference.

(D) The executive director may require a system to perform IDSE sampling or a system specific study for any reason. The executive director may require a system to perform IDSE sampling or a system specific study even if the system meets the criteria for an IDSE waiver. The executive director may require new systems and systems with a change in population or system type to perform IDSE sampling or a system specific study.

(d) Analytical requirements for TTHM and HAA5. Analytical procedures required by this section shall be performed in accordance with §290.119 of this title (relating to Analytical Procedures). Testing for TTHM and HAA5 shall be performed at a laboratory accredited by the executive director.

(e) Reporting requirements for TTHM and HAA5. Public water systems must submit reports related to TTHM and HAA5 to the executive director. Reports must be mailed to the Water Supply Division, MC 155, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087.

(1) Upon the request of the executive director, the owner or operator of a public water system must provide the executive director with a copy of the results of any test, measurement, or analysis required by this subsection. The copies must be submitted within ten days of the request or within ten days of their receipt by the public water system, whichever is later.

(A) The owner or operator of a public water system is responsible for reporting the following information for each monitoring location to the executive director within ten days of the end of any quarter in which monitoring is required:

(i) number of samples taken during the last quarter;

(ii) date and results of each sample taken during the last quarter;

(iii) arithmetic average of quarterly results for the last four quarters for each monitoring location (LRAA), beginning at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter;

(iv) whether the MCL was violated at any monitoring location; and

(v) any OELs that were exceeded during the quarter and, if so, the location and date, and the calculated TTHM and HAA5 levels.

(B) If the LRAA based on fewer than four quarters would cause the MCL to be exceeded regardless of the monitoring results of subsequent quarters, the system must report a potential MCL violation as part of the first report due following the compliance date or anytime thereafter that this determination is made. A system required to conduct monitoring at a frequency that is less than quarterly must make compliance calculations beginning with the first compliance sample taken after the compliance date, unless the system is required to conduct increased monitoring under subsection (c)(4) of this section.

(C) A system that treats surface water or groundwater under the direct influence of surface water that seeks to qualify for or remain on reduced TTHM and HAA5 monitoring must measure and report TOC monthly in accordance with §290.112 of this title and distribution system disinfection levels in accordance with §290.110 of this title (relating to Disinfectant Residuals).

(2) A system that exceeds an OEL described in subsection (b)(2) of this section must conduct an operation evaluation and submit a written operation evaluation report that meets the requirements of this paragraph.

(A) The operation evaluation report must be submitted to the executive director no later than 90 days after being notified of the analytical result that causes the exceedance of the OEL.

(B) The operation evaluation report must document an examination of system treatment and distribution operation practices that may contribute to TTHM and HAA5 formation, including:

(i) storage tank operations;

(ii) excess storage capacity;

(iii) distribution system flushing;

(iv) changes in sources or source water quality;

(v) treatment changes or problems; and

(vi) what steps could be considered to minimize future exceedances.

(C) If the cause of the OEL exceedance is identifiable the scope of the report may be limited with the approval of the executive director. A request to limit the scope of the evaluation does not extend the schedule in subparagraph (A) of this paragraph for submitting the written report. The executive director's approval to limit the scope of the operation evaluation report must be in writing. The system must keep a copy of the executive director's approval with the completed operation evaluation report.

(D) The operation evaluation report must be submitted and approved in writing.

EXHIBIT 1

(f) Compliance determination for TTHM and HAA5. Compliance with the provisions of this section shall be determined as follows.

(1) A public water system violates the MCL for TTHM if any locational running annual average for TTHM exceeds an MCL specified in subsection (b)(1)(A) of this section. A public water system violates the MCL for HAA5 if any locational running annual average for HAA5 exceeds the MCL specified in subsection (b)(1)(B) of this section.

(A) Compliance with the MCLs for TTHM and HAA5 shall be based on the LRAA of all samples collected during four consecutive quarters of monitoring. If a single quarterly sample would cause an LRAA exceedance regardless of the results of subsequent quarters, compliance may be based on fewer than four quarters of data. Should a system fail to collect all required samples, compliance will be based on the available data. All samples collected at the sampling sites designated in the public water system's monitoring plan shall be used to compute the quarterly and annual averages unless the analytical results are invalidated by the executive director for technical reasons.

(B) Stage 2 MCL compliance determination with LRAAs will start after Stage 2 samples are collected.

(i) For systems required to conduct routine quarterly monitoring, compliance calculations will be made starting at the end of the fourth calendar quarter that follows the compliance date in subsection (a)(2) of this section and at the end of each subsequent quarter.

(ii) For systems on quarterly monitoring, where the LRAA based on fewer than four quarters would exceed the MCL regardless of the monitoring results of subsequent quarters, compliance will be calculated beginning with the first sample that causes that exceedance.

(iii) For systems that are required to monitor less frequently than quarterly, compliance shall be calculated beginning with the first compliance sample taken after the compliance date.

(iv) For systems monitoring annually or triennially that start monitoring quarterly in the quarter following an LRAA exceedance, compliance shall be calculated based on the results of all available samples.

(C) If a public water system's failure to monitor makes it impossible to determine compliance with the MCL for TTHM or HAA5, the system commits an MCL violation for the entire period covered by the annual average.

(D) The executive director may choose to perform calculations and determine MCL exceedances in lieu of having the system report that information.

(E) IDSE results will not be used for the purpose of determining compliance with MCLs.

(2) A system that fails to monitor in accordance with this section commits a monitoring violation. A system on a quarterly monitoring schedule is in violation of the monitoring requirements for each quarter that it fails to monitor.

(3) A system that fails to perform a required operation evaluation under subsection (e)(2) of this section commits a monitoring violation.

(4) A public water system that fails to report the results of the monitoring tests required by subsection (e) of this section commits a reporting violation.

(5) A system that fails to submit an operation evaluation report as required under subsection (e)(2) of this section commits a reporting violation.

(6) A system that fails to perform a required public notification commits a public notification violation.

(g) Public notification requirements for TTHM and HAA5. A public water system that violates the treatment technique requirements of this section must notify the executive director and the system's customers.

(1) A public water system that commits an MCL violation described in subsection (f)(1) of this section shall report to the executive director and the water system customers in accordance with the requirements of §290.122(b) of this title (relating to Public Notification).

(2) A public water system which fails to conduct the monitoring required by subsection (c) of this section must notify its customers of the violation in accordance with the requirements of §290.122(c) of this title.

(3) Any IDSE compliance documents required under subsection (c)(5) of this section must be made available to the executive director or the public upon request.

(4) Any operation evaluation report required under subsection (e)(2) of this section must be made available to the executive director or the public upon request.

(h) Best available technology for TTHM and HAA5. Best available technology for treatment of violations of MCLs in subsection (b) of this section are listed in 40 CFR §141.64(b)(2)(ii) and (iii).

§290.119. Analytical Procedures.

(a) Acceptable laboratories. Samples collected to determine compliance with the requirements of this chapter shall be analyzed at accredited or approved laboratories.

(1) Samples used to determine compliance with the maximum contaminant levels, samples used to determine compliance with action level requirements of this subchapter, and samples for microbial contaminants must be analyzed by a laboratory accredited by the executive director in accordance with Chapter 25 of this title (relating to Environmental Testing Laboratory Accreditation and Certification). These samples include:

(A) compliance samples for synthetic organic chemicals;

(B) compliance samples for volatile organic chemicals;

(C) compliance samples for inorganic contaminants;

(D) compliance samples for radiological contaminants;

(E) compliance samples for microbial contaminants;

(F) compliance samples for total trihalomethanes (TTHM);

(G) compliance samples for haloacetic acid-group of five (HAA5);

(H) compliance samples for chlorite;

(I) compliance samples for bromate; and

(J) compliance samples for lead and copper.

(2) Samples used to determine compliance with the treatment technique requirements and maximum residual disinfectant levels

EXHIBIT 1

(MRDLs) of this subchapter must be analyzed by a laboratory approved by the executive director. These samples include:

(A) compliance samples for turbidity treatment technique requirements;

(B) compliance samples for the chlorine MRDL;

(C) compliance samples for the chlorine dioxide MRDL;

(D) compliance samples for the combined chlorine (chloramine) MRDL;

(E) compliance samples for the disinfection byproduct precursor treatment technique requirements, including alkalinity, total organic carbon, dissolved organic carbon analyses, and specific ultraviolet absorbance;

(F) samples used to monitor chlorite levels at the point of entry to the distribution system; and

(G) samples used to determine pH.

(3) Non-compliance tests, such as control tests taken to operate the system, may be run in the plant or at a laboratory of the system's choice.

(b) Acceptable analytical methods. Methods of analysis shall be as specified in 40 Code of Federal Regulations (CFR) or by any alternative analytical technique as specified by the executive director and approved by the Administrator under 40 CFR §141.27. Copies are available for review in the Water Supply Division, MC 155, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. The following National Primary Drinking Water Regulations set forth in Title 40 CFR are adopted by reference:

(1) section 141.21(f) for microbiological analyses;

(2) section 141.74(a)(1) for turbidity analyses;

(3) section 141.23(k) for inorganic analyses;

(4) section 141.24(e), (f), and (g) for organic analyses;

(5) section 141.25 for radionuclide analyses;

(6) section 141.131(a) and (b) for disinfection byproduct methods and analyses;

(7) section 141.131(c) for disinfectant analyses other than ozone, and 141.74(b) for ozone disinfectant;

(8) section 141.131(d) for alkalinity analyses, bromide and magnesium, total organic carbon analyses, dissolved organic carbon analyses, specific ultraviolet absorbance analyses, and pH analyses; and

(9) section 141.89 for lead and copper analyses and for water quality parameter analyses that are performed as part of the requirements for lead and copper; and

(10) if a method is not contained in this section, a drinking water quality method can be approved for analysis if it is listed in 40 CFR Part 141, Subpart C, Appendix A.

(c) The definition of detection contained in 40 CFR §141.151(d) is adopted by reference.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

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Robert Martinez
Director, Environmental Law Division
Texas Commission on Environmental Quality
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Proposal publication date: December 10, 2010
For further information, please call: (512) 239-6087

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SUBCHAPTER F. DRINKING WATER STANDARDS GOVERNING DRINKING WATER QUALITY AND REPORTING REQUIREMENTS FOR PUBLIC WATER SYSTEMS

30 TAC §290.117

STATUTORY AUTHORITY

This repeal is adopted under Texas Water Code (TWC), §5.102, which establishes the commission's general authority necessary to carry out its jurisdiction; §5.103, which establishes the commission's general authority to adopt rules; §5.105, which establishes the commission's authority to set policy by rule; and Texas Health and Safety Code (THSC), §341.031, which allows the commission to adopt rules to implement the federal Safe Drinking Water Act, 42 United States Code, §§300f to 300j-26; and THSC, §341.0315, which requires public water systems to comply with commission rules adopted to ensure the supply of safe drinking water.

The adopted repeal implements TWC, §§5.102, 5.103, and 5.105, and THSC, §341.031 and §341.0315.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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SUBCHAPTER H. CONSUMER CONFIDENCE REPORTS

30 TAC §290.271, §290.272

STATUTORY AUTHORITY

The amendments are adopted under Texas Water Code (TWC), §5.102, which establishes the commission's general authority necessary to carry out its jurisdiction; §5.103, which establishes the commission's general authority to adopt rules; §5.105, which establishes the commission's authority to set policy by rule; and Texas Health and Safety Code (THSC), §341.031, which allows the commission to adopt rules to implement the federal Safe Drinking Water Act, 42 United States Code, §§300f to 300j-26; and THSC, §341.0315, which requires public water systems to

EXHIBIT 1

comply with commission rules adopted to ensure the supply of safe drinking water.

The adopted amendments implement TWC, §§5.102, 5.103, and 5.105, and THSC, §341.031 and §341.0315.

§290.271. Purpose and Applicability.

(a) The purpose of the sections in this subchapter is to establish the minimum requirements for the content of annual reports that community water systems must deliver to their customers. These reports must contain information on the quality of the water delivered by the systems and characterize any risk from exposure to contaminants detected in the drinking water in an accurate and understandable manner. This subchapter applies only to community water systems.

(b) Each community water system must provide to its customers an annual report that contains the information specified in this subchapter.

(c) For the purposes of this section, the term "detected" shall mean the detection of a chemical at any level equal to or greater than the minimum detection level.

§290.272. Content of the Report.

(a) Information on the source of the water delivered must be included in the report.

(1) Each report must identify the source(s) of the water delivered by the community water system by providing information on the type of the water (such as surface water or groundwater) and any commonly used name and location of the body(ies) of water.

(2) If a source water assessment has been completed, the report must notify consumers of the availability of this information and the means to obtain it. In the reports, systems should highlight significant sources of contamination in the source water area if they have readily available information.

(3) If a system has received a source water assessment from the executive director, the report must include a brief summary of the system's susceptibility to potential sources of contamination using language provided by the executive director or written by a water system official and approved by the executive director.

(b) The following explanations must be included in the annual report.

(1) Each report must contain the following definitions.

(A) Maximum contaminant level goal (MCLG)--The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

(B) Maximum contaminant level (MCL)--The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to maximum contaminant level goals as feasible using the best available treatment technology.

(C) Maximum residual disinfectant level goal (MRDLG)--The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

(D) Maximum residual disinfectant level (MRDL)--The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

(2) The following terms and their descriptions must be included when they appear in the report:

(A) MFL--million fibers per liter (a measure of asbestos);

(B) mrem/year--millirems per year (a measure of radiation absorbed by the body);

(C) NTU--nephelometric turbidity units (a measure of turbidity);

(D) pCi/L--picocuries per liter (a measure of radioactivity);

(E) ppb--parts per billion, or micrograms per liter (µ/L);

(F) ppm--parts per million, or milligrams per liter (mg/L);

(G) ppt--parts per trillion, or nanograms per liter (ng/L); and

(H) ppq--parts per quadrillion, or picograms per liter (pg/L).

(3) A report for a community water system operating under a variance or an exemption of the Safe Drinking Water Act must include a description of the variance or the exemption granted under §290.102(b)(4) of this title (relating to General Applicability).

(4) A report that contains data on a contaminant for which the United States Environmental Protection Agency (EPA) has set a treatment technique or an action level must include, depending on the contents of the report, the following definitions.

(A) Treatment technique (TT)--A required process intended to reduce the level of a contaminant in drinking water.

(B) Action level (AL)--The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

(c) Information on detected contaminants.

(1) This subsection specifies the requirements for information to be included in each report for detected contaminants subject to mandatory monitoring, excluding *Cryptosporidium.* Mandatory monitoring is required for:

(A) regulated contaminants subject to an MCL, MRDL, action level, or treatment technique; and

(B) unregulated contaminants for which monitoring is required by 40 Code of Federal Regulations (CFR) §141.40, relating to Unregulated Contaminants and found in §290.275(4) of this title (relating to Appendices A - D).

(2) The data relating to these detected contaminants must be displayed in one table or in several adjacent tables. Any additional monitoring results that a community water system chooses to include in its reports must be displayed separately.

(3) The data must be derived from data collected to comply with EPA and the commission monitoring and analytical requirements during the previous calendar year, except when a system is allowed to monitor for regulated contaminants less often than once per year. In that case, the table(s) must include the date and results of the most recent sampling, and the report must include a brief statement indicating that the data presented in the report is from the most recent testing done in accordance with the regulations. The report does not need to include data that is older than five years.

(4) For detected regulated contaminants listed under §290.275 of this title, the table(s) must contain:

EXHIBIT 1

(A) the MCLs for those contaminants expressed as a number equal to or greater than 1.0 (as provided under §290.275 of this title);

(B) the MCLGs for those contaminants expressed in the same units as the MCLs (as provided for under §290.275 of this title);

(C) if there is no MCL for a detected contaminant, the treatment technique or specific action level applicable to that contaminant; and

(D) for contaminants subject to an MCL, except turbidity and total coliforms, the highest contaminant level used to determine compliance with National Primary Drinking Water Regulations and the range of detected levels.

(i) For contaminants subject to MCLs, except turbidity and total coliforms, when sampling takes place once per year or less often, the table(s) must contain the highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.

(ii) When sampling takes place more than once per year at each sampling point, the table(s) must contain the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL.

(iii) In accordance with date requirements included in the table under §290.115(a) of this title (relating to Stage 2 Disinfection Byproducts (TTHM and HAA5)), entitled "Date to Start Stage 2 Compliance," for the MCLs for trihalomethanes (TTHM) and haloacetic acids (HAA5), systems must include the highest locational running annual average for TTHM and HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. If more than one location exceeds the TTHM or HAA5 MCL, the system must include the locational running annual averages for all sampling points that exceed the MCL.

(iv) When compliance with any MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points, the table(s) must include the average and range of detections expressed in the same units as the MCL.

(v) When the executive director allows the rounding of results to determine compliance with the MCL, rounding should be done after multiplying the results by the factor listed under §290.275 of this title.

(E) When turbidity is reported under §290.111 of this title (relating to Surface Water Treatment), the table(s) must contain the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in that section for the filtration technology being used. The report should include an explanation of the reasons for measuring turbidity.

(F) When lead and copper are reported, the table(s) must contain the 90th percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level.

(G) When total coliform is reported, the table(s) must contain either the highest monthly number of positive samples for systems collecting fewer than 40 samples per month or the highest monthly percentage of positive samples for systems collecting at least 40 samples per month.

(H) When fecal coliform is reported, the table(s) must contain the total number of positive samples.

(I) The table(s) must contain information on the likely source(s) of detected contaminants based on the operator's knowledge. Specific information regarding contaminants may be available in sanitary surveys or source water assessments and should be used when available. If the operator lacks specific information on the likely source, the report must include one or more typical sources most applicable to the system for any particular contaminant listed under §290.275 of this title.

(i) If a community water system distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table(s) must contain a separate column for each service area, and the report must identify each separate distribution system. Systems may produce separate reports tailored to include data for each service area.

(ii) The table(s) must clearly identify any data indicating violations of MCLs, MRDLs, or treatment techniques. The report must contain a clear and readily understandable explanation of the violation. The explanation must include the length of the violation, the potential adverse health effects, and the actions taken by the system to address the violation. To describe the potential health effects, the system must use the relevant language contained under §290.275 of this title.

(5) For detected unregulated contaminants found under §290.275 of this title, for which monitoring is required (except *Cryptosporidium),* the table(s) must contain the average and range of concentrations at which the contaminant was detected. The report must include the following explanation: "Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted."

(d) Information on *Cryptosporidium,* radon, and other contaminants.

(1) If the system has performed any monitoring for *Cryptosporidium,* the report must include a summary of the results of any detections and an explanation of the significance of the results.

(2) If the system has performed any monitoring for radon, which indicates that radon may be present in the finished water, the report must include the results of the monitoring and an explanation of the significance of the results.

(3) If the system has performed additional monitoring, which indicates the presence of other contaminants in the finished water, the executive director strongly encourages systems to report any results which may indicate a health concern. To determine if the results may indicate a health concern, the executive director recommends that systems find out if the EPA has proposed a standard in the *National Primary Drinking Water Regulations* (NPDWR) or issued a health advisory for any particular contaminant. This information may be obtained by calling the Safe Drinking Water Hotline at (800) 426-4791. The executive director considers detections that are above a proposed MCL or health advisory level to indicate possible health concerns. For such contaminants, the executive director recommends that the report include the results of the monitoring and an explanation of the significance of the results. The explanation should note the existence of a health advisory or a proposed regulation.

(e) Compliance with NPDWR. In addition to the requirements in subsection (c)(4)(I)(ii) of this section, the report must note any violation that occurred during the year covered by the report of a requirement listed in paragraphs (1) - (8) of this subsection.

(1) The report must include a clear and readily understandable explanation of each violation of monitoring and reporting of compliance data and explain any adverse health effects and steps the system has taken to correct the violation.

EXHIBIT 1

(2) The report must include a clear and readily understandable explanation of each violation of filtration and disinfection prescribed by Subchapter F of this chapter (relating to Drinking Water Standards Governing Drinking Water Quality and Reporting Requirements for Public Water Systems) and explain any adverse health effects and steps the system has taken to correct the violation. This applies both to systems that have failed to install adequate filtration, disinfection equipment, or processes, and to systems that have had a failure of such equipment or processes, each of which constitutes a violation. In either case, the report must include the following language as part of the explanation of potential adverse health effects: "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."

(3) The report must include a clear and readily understandable explanation of each violation of the lead and copper control requirements prescribed by §290.117 of this title (relating to Regulation of Lead and Copper). For systems that fail to take one or more actions prescribed by §290.117(g), (h), and (i) of this title, the report must include the applicable health effects language of §290.275(3) of this title for lead, copper, or both and the steps the system has taken to correct the violation.

(4) The report must include a clear and readily understandable explanation of each violation of treatment techniques for Acrylamide and Epichlorohydrin prescribed by §290.107 of this title (relating to Organic Contaminants). If a system violates these requirements, the report must include the relevant health effects language from §290.275 of this title and the steps the system has taken to correct the violation.

(5) The report must include a clear and readily understandable explanation of each violation of recordkeeping of compliance data and explain any adverse health effects and steps the system has taken to correct the violation.

(6) The report must include a clear and readily understandable explanation of each violation of special monitoring requirements for unregulated contaminants and special monitoring for sodium as prescribed by 40 CFR §141.40 and §141.41 and explain any adverse health effects and steps the system has taken to correct the violation.

(7) For systems required to conduct initial distribution sampling evaluation (IDSE) sampling in accordance with §290.115(c)(5) of this title, the system is required to include individual sample results for the IDSE when determining the range of TTHM and HAA5 results to be reported in the annual consumer confidence report for the calendar year that the IDSE samples were taken.

(8) The report must include a clear and readily understandable explanation of each violation of the terms of a variance, exemption, administrative order, or judicial order and explain any adverse health effects and steps the system has taken to correct the violation.

(f) Variances and exemptions. If a system is operating under the terms of a variance or exemption issued under §290.102(b) of this title, the report must contain:

(1) an explanation of the variance or exemption;

(2) the date on which the variance or exemption was issued and on which it expires;

(3) a brief status report on the steps the system is taking, such as installing treatment processes or finding alternative sources of water, to comply with the terms and schedules of the variance or exemption; and

(4) a notice of any opportunity for public input as the review or renewal of the variance or exemption.

(g) Additional information.

(1) The report must contain a brief explanation regarding contaminants that may reasonably be expected to be found in drinking water (including bottled water). This explanation may include the language contained within subparagraphs (A) - (C) of this paragraph, or systems may include their own comparable language. The report must include the language of subparagraphs (D) and (E) of this paragraph.

(A) The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

(B) Contaminants that may be present in source water include:

(i) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

(ii) inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

(iii) pesticides and herbicides, which might have a variety of sources such as agriculture, urban storm water runoff, and residential uses;

(iv) organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and

(v) radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

(C) In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

(D) Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact the system's business office.

(E) Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

(2) The report must include the telephone number of the owner, operator, or designee of the community water system as an additional source of information concerning the report.

(3) Each English language report must include the following statement in a prominent place on the first page: "Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (XXX) XXX-XXXX." In addition to this statement in Spanish, for communities with a large propor-

EXHIBIT 1

tion of limited English proficiency residents, as determined by the executive director, the report must contain information in the appropriate language(s) regarding the importance of the report or contain a telephone number or address where such residents may contact the system to obtain a translated copy of the report or assistance in the appropriate language.

(4) The report must include information about opportunities for public participation in decisions that may affect the quality of the water (e.g., time and place of regularly scheduled board meetings). Investor-owned utilities are encouraged to conduct public meetings, but must include a phone number for public input.

(5) The systems may include such additional information for public education consistent with, and not detracting from, the purposes of the report.

(6) Systems that use an interconnect or emergency source to augment the drinking water supply during the calendar year of the report must provide the source of the water, the length of time used, an explanation of why it was used, and whom to call for the water quality information.

(7) Beginning December 1, 2009, any groundwater system that receives notice from a laboratory of a fecal indicator-positive groundwater source sample that is not invalidated by the executive director under §290.109(d) of this title (relating to Microbial Contaminants) must inform its customers of any fecal indicator-positive groundwater source sample in the next report. The system must continue to inform the public annually until the executive director determines that the fecal contamination in the groundwater source is addressed under §290.116(a) of this title (relating to Groundwater Corrective Actions and Treatment Techniques). Each report must include the following elements:

(A) the source of the fecal contamination (if the source is known) and the dates of the fecal indicator-positive groundwater source samples;

(B) actions taken to address the fecal contamination in the groundwater source as directed by §290.116 of this title and the date of such action;

(C) for each fecal contamination in the groundwater source that has not been addressed under §290.116 of this title, the plan approved by the executive director and schedule for correction, including interim measures, progress to date, and any interim measures completed; and

(D) for a fecal indicator-positive groundwater source sample that is not invalidated by the executive director under §290.109(d) of this title, the potential health effects using the health effects language of §290.275(3) of this title.

(8) Beginning December 1, 2009, any groundwater system that receives notice from the executive director of a significant deficiency must inform its customers of any significant deficiency that is uncorrected at the time of the next report. The system must continue to inform the public annually until the executive director determines that particular significant deficiency is corrected under §290.116 of this title. Each report must include the following elements:

(A) the nature of the particular significant deficiency and the date the significant deficiency was identified by the executive director;

(B) for each significant deficiency, the plan approved by the executive director and schedule for correction, including interim measures, progress to date, and any interim measures completed; and

(C) if corrected before the next report, the nature of the significant deficiency, how the deficiency was corrected, and the date of the corrections.

(9) Every report must include the following lead-specific information - a short informational statement about lead in drinking water and its effect on children.

(A) The statement must include the information set forth in this example statement. "If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. NAME OF UTILITY is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at *http://www.epa.gov/safewater/lead.*"

(B) A system may write its own educational statement, but only in consultation with the executive director.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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CHAPTER 298. ENVIRONMENTAL FLOW STANDARDS FOR SURFACE WATER

The Texas Commission on Environmental Quality (TCEQ, agency, or commission) adopts new §§298.1, 298.5, 298.10, 298.15, 298.20, 298.25, 298.200, 298.205, 298.210, 298.215, 298.220, 298.225, 298.230, 298.240, 298.250, 298.255, 298.260, 298.265, 298.275, 298.280, 298.285, and 298.290.

Sections 298.1, 298.10, 298.15, 298.20, 298.25, 298.200, 298.205, 298.215, 298.220, 298.225, 298.230, 298.240, 298.250, 298.255, 298.260, 298.265, 298.275, 298.280, 298.285, and 298.290 are adopted *with changes* to the proposed text as published in the November 19, 2010, issue of the *Texas Register* (35 TexReg 10168). Section 298.5 and §298.210 are adopted *without changes* to the proposed text and will not be republished. Section 298.270 is withdrawn.

Background and Summary of the Factual Basis for the Adopted Rules

In 2007, the 80th Legislature passed House Bill 3 (HB 3), relating to the management of the water resources of the state, including the protection of instream flows and freshwater inflows; and Senate Bill 3 (SB 3) relating to the development, management, and preservation of the water resources of the state. Both of

EXHIBIT 1

these bills amended Texas Water Code (TWC), §11.1471, which requires the commission to adopt rules related to environmental flow standards and set-asides. The commission adopts new Chapter 298, Environmental Flow Standards for Surface Water, to implement the environmental flow provisions of HB 3, Article 1, and SB 3, Article 1, and also adopts environmental flow standards for the Trinity and San Jacinto Rivers, their associated tributaries, and Galveston Bay; and the Sabine and Neches Rivers, their associated tributaries, and Sabine Lake Bay.

Prior to HB 3/SB 3, the commission had the authority to protect environmental interests as it permitted state surface water. The commission had the authority to maintain: existing instream uses under TWC, §11.147(d); water quality under TWC, §11.147(d) and §11.150; fish and wildlife habitat under TWC, §11.147(e) and §11.152; and freshwater inflows to bay and estuary systems under TWC, §11.147(a) - (c). TWC, §11.147(b) - (e) and §11.152 required that these environmental considerations be included only to the extent practicable or reasonable and required that environmental considerations be considered along with other factors of public welfare. HB 3/SB 3 did not make major changes to this commission authority.

The commission also retains its ability, granted prior to HB 3/SB 3, to place special conditions in water right permits to protect environmental interests. Before HB 3/SB 3, TWC, §11.134(b)(3)(D), required consideration of environmental interests for new appropriations of water, including amendments that granted an increase in the amount of water that could be diverted and TWC, §11.085, required consideration for interbasin transfers. Permits for water projects that call for the re-diversion of wastewater or return flows to a watercourse, so called "indirect reuse" projects, were also subject to special conditions to protect environmental uses under TWC, §11.042 and §11.046. Amendments that were not new appropriations were required to be authorized if, among other criteria, the amendment would not cause adverse impact to the environment of greater magnitude than under the original permit under TWC, §11.122(b). As a practical matter, if any adverse impact to the environment was noted in an application for an amendment, then special conditions were crafted to remove the adverse impact so that the amendment might be granted.

HB 3/SB 3 changed the process by which the state would decide the flow that needed to be preserved in the watercourse for the environment and the balancing of environmental interests along with other public interests. HB 3/SB 3 created a statewide Environmental Flows Advisory Group (Advisory Group). The Advisory Group was given the responsibility to appoint Basin and Bay Area Stakeholder Committees (the stakeholder committee or BBASC) for each of the state's river basin, bay, and estuary systems. The stakeholder committees, in turn, appointed a Basin and Bay Expert Science Team (the science team or BBEST). The science teams were to develop a recommended environmental flow regime, or schedule of flow quantities adequate to support a sound ecological environment. The stakeholders were to take the science team's recommendations and consider those recommendations in conjunction with other factors, including the present and future needs for water for other uses. The stakeholders were also to report their recommendations to the commission. Both the science teams and the stakeholder committees were to reach their recommendations by a consensus basis to the maximum extent possible. The commission, in turn, was to take the recommendations from the science team, the stakeholder committees, the Advisory Group, and a statewide Science Advisory Committee (SAC), and consider that information along with other information and by rule adopt environmental flow standards for each basin and bay system. At the same time the commission is to establish an amount of unappropriated water, if available, to be set aside to satisfy the environmental flow standards to the maximum extent reasonable when considering human water needs. Once the environmental flow standards are adopted, the commission's objective or goal will be to protect the standards, along with the interests of senior water right holders, in its water rights permitting process for new appropriations and amendments that increase the amount of water to be taken, stored, or diverted. Under HB 3/SB 3, the commission may use the set-aside or use its existing authority to place special conditions in permits to protect the environmental flow standards.

The commission received the Trinity and San Jacinto Rivers and Galveston Bay science team's report on December 1, 2009, and the stakeholder committee report on May 28, 2010. The commission received the Sabine and Neches Rivers and Sabine Lake Bay science team's report on November 30, 2009, and the stakeholder committee report on May 24, 2010. Copies of the Trinity and San Jacinto Rivers and Galveston Bay reports are available on the Web site: *http://www.tceq.texas.gov/goto/eflows/galvestonbay.* Copies of the Sabine and Neches Rivers and Sabine Lake Bay reports are available on the Web site: *http://www.tceq.texas.gov/goto/eflows/sabinelake.*

The commission adopts Subchapter A to implement HB 3/SB 3 for the whole state. As the commission receives stakeholder recommendations, it intends to adopt environmental flow standards and basin-specific rules in separate subchapters. The commission adopts Subchapter B to cover the Trinity and San Jacinto Rivers and Galveston Bay. The commission further adopts Subchapter C to cover the Sabine and Neches Rivers and Sabine Lake Bay.

In a corresponding rulemaking published in this issue of the *Texas Register,* the commission also adopts the amendment to 30 TAC Chapter 35, Emergency and Temporary Orders and Permits; Temporary Suspension or Amendment of Permit Conditions.

Section by Section Discussion

Subchapter A: General Provisions

§298.1, Definitions

The commission adopts new §298.1 to define common terms used in Chapter 298. Occasionally, the same term might be defined differently for a specific basin or bay and basin system. In those cases, the term will be redefined for the subchapter devoted to that specific bay and basin system. The commission acknowledges that overbank flows are considered to be a component of a flow regime for a sound ecological environment. These flows result from naturally occurring large rainfall events, which will likely continue to occur. Therefore, the commission is not including overbank flows as a component of the adopted standards. Terms defined in Subchapter B and Subchapter C are applicable to the specific bay and basin systems referred to in those subchapters, and those terms will control over the definitions in Subchapter A.

In response to comment, the commission adopts §298.1(1) to provide a definition of "Affected person" to define persons who could file a motion for reconsideration of the commission's action related to adjustment of environmental flow conditions in a water rights permit as specified in adopted §298.25(e). As a result

EXHIBIT 1

of these additions, the commission has renumbered the paragraphs (2) - (11) in §298.1.

In §298.1(2), (8), and (10) the commission adopts definitions for the terms "Base flow," "Pulse or high flow pulse," and "Subsistence flow" which represent components of a flow regime. In response to comment, the phrase "and recolonization" was added to the definition of "Subsistence flow" in adopted §298.1(10). The SAC used these instream flow regime components in their recommended framework for the development of environmental flow regime recommendations. The commission notes that both the science teams used these components in developing portions of their reports. The commission anticipates that future recommendations will use similar components; however, the commission, by including definitions for these components, does not mean to imply that all future recommendations must use these exact components as defined here.

In §298.1(3) the commission adopts a definition for the term "Environmental flow regime" by tracking the definition in TWC, §11.002(16). In response to comment, the commission added the phrase ". . .and that are shown to be adequate to support a sound ecological environment and to maintain the productivity, extent, and persistence of key aquatic habitats in and along the affected water bodies" to avoid inconsistency with the statute. The commission intends its definition to have the same meaning as the statutory meaning.

In §298.1(4) the commission adopts a definition for the term "Environmental flow standards" by tracking the definition in TWC, §11.002(17). The commission intends its definition to have the same meaning as the statutory meaning.

In §298.1(5) and (7) the commission adopts definitions for the terms "Lower Rio Grande" and "Middle Rio Grande" by tracking the definitions in 30 TAC §303.2. In response to comment, the phrase ". . ., and its tributaries in Texas," was added to the definitions in adopted §298.1(5) and (7) to more closely track the definitions in §303.2 with regard to the tributaries.

In §298.1(6) the commission adopts a definition for the term "Measurement point." TWC, §11.1471(c), requires that environmental flow standards vary geographically by specific location in a river basin or bay system. The commission adopts the use of the term "Measurement point" to describe those locations where environmental flow standards are established.

In response to comment, the commission adopts §298.1(9) to provide a definition of "Set-aside" by tracking TWC, §11.1471(a)(2). The commission intends its definition to have the same meaning as the statutory meaning. As a result of this addition, the commission has renumbered the remaining definitions in §298.1.

In §298.1(11) the commission adopts a definition for the acronym "USGS," otherwise known as United States Geological Survey.

In §298.1(12) the commission adopts a definition for the term "Water right holder" with its common practical meaning, being the owner of a water right permit, which also is defined in this chapter.

In §298.1(13) the commission adopts a definition for the term "Water right permit" that includes permits, certificates of adjudication, and certified filings for the area of the state where the water rights adjudication process is not final, generally the Pecos Sub-basin, as well as permits issued since the adjudication process. In response to comment, the word "user" was changed to the word "uses" in the definition of "Water right permit" in adopted §298.1(13). This change clarifies that domestic and livestock users are not water right holders for the purposes of this chapter. Additionally, these uses would not be subject to the environmental flow standards because the standards apply to permits for new appropriations of water.

§298.5, General

The commission adopts new §298.5 to provide that Chapter 298 contains the commission's rules related to environmental flow standards. The commission adopts the environmental flow standards in Subchapter B for the Trinity and San Jacinto Rivers, their tributaries, and Galveston Bay and in Subchapter C for the Sabine and Neches Rivers, their associated tributaries, and Sabine Lake Bay. The commission has carefully considered: the definitions of the geographical extent of the river basin and bay system adopted by the Advisory Group and the designation of river basins by the Texas Water Development Board (TWDB); the schedule for the adoption of environmental flows standards established by the Advisory Group; the recommendations developed by the stakeholder committees for their respective areas and any strategies identified by the stakeholders to meet the flow standards; comments submitted by the Advisory Group; the specific characteristics of the river basin and bay system; economic factors considered appropriate by the commission; human and other competing water needs in the river basin; all reasonably available scientific information, including scientific information provided by the SAC; and other appropriate information. The commission specifically invited commenters to provide any relevant information, which may have differed from its proposed standards, which in the commenter's opinion would have assisted the commission in deciding on final environmental flow standards. The commission considered those comments in developing the adopted standards. The adopted new section implements TWC, §11.1471(a) - (c).

§298.10, Applicability

The commission adopts new §298.10. The intent of HB 3/SB 3 was that the environmental flow standards would only apply to new appropriations of water and amendments that granted a new appropriation of water after September 1, 2007. Subsection (a) of this adopted section states the intent of those bills. In response to comment, the phrase ". . .only when there is an applicable adopted environmental flow standard and. . ." was added to adopted §298.10(a) to clarify that any standards apply only in areas where they have been adopted. However, HB 3/SB 3 left open the question of what process and substantive amounts of water will be used in special conditions, if any, to protect environmental flows for interbasin transfers of existing appropriations; amendments, such as moving a diversion point upstream that does not appropriate new water; and indirect reuse permits under either TWC, §11.042 or §11.046, that might or might not be considered a new appropriation. Under subsection (b) of the adopted rule, the commission clarifies that in those cases where this chapter does not apply, the commission will use its existing authority granted under TWC, Chapter 11, as may be modified by its 30 TAC Chapter 295 and Chapter 297 rules. This adopted new section implements SB 3 and HB 3, as §1.27 was not codified into the TWC.

§298.15, Special Conditions to Protect Environmental Flow Standards and Set-Asides

The commission adopts new §298.15 to incorporate special conditions to protect the environment and set-asides into the rule. One of the ways that the commission may take action to attempt

EXHIBIT 1

to satisfy environmental flow standards is to set aside unappropriated water under TWC, §11.1471(a)(2). Once the commission has set aside unappropriated water for this purpose, under TWC, §11.023(a) and §11.1471(d), the water is not available for appropriation, except in an emergency under TWC, §5.506 and §11.148. In addition, once the commission has established a set-aside, it is also obligated under TWC, §11.1471(d) to include, in new appropriations, appropriate conditions to ensure protection of the environmental flow set-aside.

The commission understands that special conditions may also be imposed to protect environmental flows in other situations besides when the commission has set aside unappropriated flows. The commission views set-asides as a tool, in circumstances specified by the statute, for a high level of protection, but not the only level of protection afforded by the TWC for environmental flows. Just as it has before HB 3/SB 3, the commission may impose special conditions in water right permits to protect environmental interests. Under the typical special conditions imposed by the commission prior to HB 3/SB 3, a broad classification of waters was allowed to satisfy the special condition. Water appropriated to downstream water right holders, water of another state under an interstate compact, water appropriated to another but not used, and return flows would all count towards satisfying any environmental flow special condition. The commission considers this type of special condition still available to the commission to provide protection to environmental flow standards adopted pursuant to HB 3/SB 3. The commission is not adopting the exact terms and conditions of special conditions that it will impose to protect environmental flow standards. The commission sees implementation of HB 3/SB 3 as an evolutionary process. The commission wishes to maintain flexibility in permit special conditions as it gains experience implementing the environmental flow standards. This adopted new section implements TWC, §§11.023, 11.1471(d), and 11.147(e-3). In response to comment, the phrase ". . ., after the adoption of an environmental flow set-aside. . .," was added to the adopted §298.15(a) to more closely track TWC, §11.1471(d). Additionally, the phrase ". . ., to the maximum extent reasonable, considering other public interests and other relevant factors. . ." was deleted from adopted §298.15(c) to avoid inconsistency with TWC, §11.147(e-3). The commission also corrected a typographical error by adding a hyphen between the word "set" and the word "asides" in the heading.

§298.20, Priority Date for Set-Asides

The commission adopts new §298.20 to establish that an environmental flow standard or set-aside that meets certain criteria will be assigned a priority date that corresponds to the date the commission receives the environmental flow recommendation. Further, this adopted new section establishes that the priority date will be included in certain water availability models (WAMs). In accordance with TWC, §11.1471(e), for any environmental flow set-aside, that set aside water must be included in the commission's WAM with a priority date based on the date that the commission received the recommendations from the applicable science team. The commission also reserves the right to protect environmental flow standards by placing those standards into its availability models. When the commission places those environmental flow standards into the models, it will give the flow standards the same priority date that it would give a set-aside. This is in part to ensure that the standards will not affect existing water rights and will only apply to new appropriations of water.

In response to comments, the commission added the sentence "The priority date for the environmental flow standards will be used in the water availability determination for a new appropriation or for an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted and has no other purpose." The commission intends to protect high flow pulse standards from being permitted to smaller applicants for new appropriations because under adopted §298.230 and §298.285, the high flow pulse standards would not be included in water right permits for new appropriations of less than 10,000 acre-feet. In addition, the commission needs to ensure that new appropriations, or amendments to add a new appropriation, will not affect downstream flow standards at measurement points that are not applicable to those new appropriations or amendments. This adopted new section implements TWC, §11.1471(e).

§298.25, Process for Adjusting Environmental Flow Conditions in Certain Permits

The commission adopts new §289.25. Under the HB 3/SB 3 amendment to TWC, §11.147, for all new appropriations of water after September 1, 2007, the commission was required to include in the water right a provision that allows the commission to adjust environmental flow conditions, if the commission later determines that the adjustment is appropriate to achieve compliance with adopted environmental flow standards. This section adopts procedures for that adjustment.

Subsection (a) adopts an adjustment process that would start on the petition by the executive director. The adjustment would only apply to new appropriations and amendments that increased the appropriation issued after September 1, 2007, the effective date of HB 3/SB 3, Article 1. Adopted Subsection (b) requires the executive director's petition be similar to an original application for a water permit, but the title should indicate that it is for an adjustment to an environmental flow special condition. Adopted subsection (c) requires the notice for these petitions for adjustment of special conditions be by first class mail to all water right holders and navigation districts in the basin. The adopted rule also requires that notice be posted to the agency's Web site. The adopted rule requires that notice be given at least 30 days prior to action on the petition. In response to comment, the commission added the "Texas Parks and Wildlife Department" to adopted §298.25(c) as an entity that would receive notice of the petition to be consistent with TWC, §11.147(f), which recognizes Texas Parks and Wildlife Department (TPWD) as a party on applications to store, take, or divert water. Adopted subsection (d) allows the commission to act on the petition without holding a public hearing. The authority for this subsection comes from TWC, §11.147(e-1), which does not mention a public hearing for the decision to adjust these special conditions. The statute does specify that adjustments may be made after an "expedited public comment process." As adopted, subsections (e) and (f) provide that motions for reconsideration of the commission's action may be filed within 30 days by any of the following: the commission, the executive director, the water right holder, or the affected parties. The adoption would require the motion for reconsideration to be in writing. In response to comment, the commission added the "Texas Parks and Wildlife Department" to adopted §298.25(e)(4) as an entity that may file a motion for rehearing under this section. The commission made this change to the adopted rule to be consistent with the addition of TPWD as a party who receives notice of the petition under adopted §289.25(c). Adopted subsection (g) allows the commis-

EXHIBIT 1

sion, after it grants a motion to reconsider, authority to refer the matter to the State Office of Administrative Hearings (SOAH).

Adopted subsection (h) implements the provision of the statute that the adjustment may not exceed 12.5% of the annualized total of the amount required to be adjusted. As adopted, the 12.5% calculation for environmental flow conditions expressed in cubic feet per second is calculated by a simple arithmetic calculation of a 12.5% increase to the flow condition. For environmental flow conditions for high flow pulses that may have a peak flow component expressed in cubic feet per second, a duration expressed in hours or days, and a total volume expressed in acre-feet, the adopted rule uses a 12.5% increase of the total volume of the condition annualized by totaling all the required pulses per year. In response to comments, the commission added the words and phrases ". . .summing the monthly rate in cubic feet per second for each month and then. . .," ". . .sum of the monthly rates in. . .," "maximum annualized", and "annualized" to adopted §298.25(h)(1) and deleted the phrases "annual amount of", and "and calculate the new condition" from adopted §298.25(h)(1). Additionally, in response to comments, the commission also added the words and phrases ". . .summing the original pulse volume for each season and. . .," "that", and "annualized" to adopted §298.25(h)(2) and deleted the words and phrases "the original pulse" and "component" from adopted §298.25(h)(2). The commission does not intend to prescribe how a flow adjustment would be distributed in a future proceeding but only to clarify the calculation of this requirement. At this time, the commission needs to maintain flexibility to determine how these flows would be distributed in the future as it gains experience implementing adjustments to the standards. The adopted rule allows this flexibility. Adopted subsection (i) discusses the basis of environmental flow adjustment and tracks the language of TWC, §11.147(e-1)(2), and is not intended to expand or restrict the intent of this section.

Subsection (j) is adopted to implement the provision of the statute that calls for the adjustment to be based on appropriate consideration of the voluntary contributions to the Texas Water Trust, voluntary amendments to existing water rights to change the use or add a use for instream flows dedicated to environmental needs or bay and estuary inflows, and the appropriate credit for those contributions or amendments. Water rights vary in reliability or the amount of time that water is actually present in the watercourse. The adopted rule recognizes that a contribution of reliable water or amendment for instream uses and bay and estuary freshwater inflows should be entitled to higher consideration and credit than a similar contribution or amendment of less reliable water. In order to avoid an overly complicated rule, the commission adopts that more reliable water, defined as water where the total volume is available at least 75% of the years, is entitled to full credit. The amount of water must be evenly distributed over the full year. For example, the water right holder seeking credit or consideration under the adopted rule would not be able to specify that their 10,000 acre-foot donation should be considered as being made only in June, July, and August, unless the original water right only allowed diversions in those months. The commission adopts that water that is available less than 75% of the years is entitled to credit for 50% of the amount of water, again spread over the full year. For water rights amended to add a use for instream flows dedicated to environmental needs or bay and estuary inflows, the water right holder retains the ability to use the water right for its original purposes. The adopted rule gives the water right holder credit for 50% of the amount so amended, so long as that amount is not used for its original purposes. In response to comment, the commission added the words and phrases "evenly" and ". . .year, or, if the underlying permit limits the portion of the year when use is authorized, over that portion of the year when use is authorized in the underlying permit" to adopted §298.25(j)(1) and (2) and deleted the phrase "permit's time interval" from adopted §298.25(j)(1) and (2). The commission intends to clarify how the adopted rule would apply to permits with limitations on when their water can be used throughout the year. Additionally, in response to comments the commission also added §298.25(j)(3) stating, "For water rights that are voluntarily contributed to the Texas Water Trust and include storage, and providing that the underlying water right authorizes diversion from that storage, allowing the water to be provided in at least 75% of the years, the commission may allow credit for the contribution without spreading the amount of the contribution evenly across the year if the commission determines that doing so would better ensure protection of the standards and any applicable environmental flow set-aside." This new paragraph gives the commission discretion to distribute the credit for a contribution to the Texas Water Trust in a different manner, when reservoir storage is available, in order to provide maximum benefit to the environment. This adopted new section implements TWC, §11.147(e-1) and (e-2).

Subchapter B: Trinity and San Jacinto Rivers, and Galveston Bay.

The commission adopts Subchapter B to contain all of the environmental flow standards and rules specific to the basin and bay system composed of the Trinity and San Jacinto Rivers, their associated tributaries, and Galveston Bay. The science team delivered its report to the commission on December 1, 2009. The stakeholder committee delivered its recommendations to the commission on May 28, 2010. The commission understands that it is now its duty to adopt environmental flow standards under TWC, §11.02362(c)(5). This adopted new subchapter implements the schedule established by the Advisory Group under TWC, §11.02362, and environmental flow standards required of the commission in TWC, §11.1471. The adopted title of Subchapter B has been modified to read as "Trinity and San Jacinto Rivers, and Galveston Bay."

§298.200, Applicability and Purpose

The commission adopts new §298.200 to describe the purpose of Subchapter B and in what circumstances it applies. In response to comment, the commission added the phrase "In case of a direct conflict, provisions" and deleted the word "Provisions" from adopted §298.200 to clarify the circumstances where the provisions of Subchapter B control over those in Subchapter A.

§298.205, Definitions

The commission adopts new §298.205. The adopted section has definitions of terms that will apply only to this subchapter. In response to comment, the commission added a definition for Galveston Bay as paragraph (1) and renumbered the remaining paragraphs. In §298.205(2), (3), (5), and (6) the commission adopts definitions for the seasons, "Fall," "Spring," "Summer," and "Winter" because the environmental flow standards for this basin and bay system vary by season. The definitions are the same as the definitions of the seasons in the recommendations of the majority of the stakeholders and commenters to the proposed rule. In §298.205(4) the commission adopts a definition for "Sound ecological environment." This adopted definition is

EXHIBIT 1

the same definition as presented by the majority of the stakeholders.

§298.210, Findings

The commission adopts new §298.210 regarding findings related to sound ecological environments. The adopted finding regarding the ecological environment is in keeping with the stakeholder committee reports. Additional information on the commission's reasoning for the adopted schedule of flow quantities and environmental flow standards can be found in this preamble under the analyses for §298.220 and §298.225. This adopted new section implements TWC, §11.1471.

§298.215, Set-Asides and Standards Priority Date

The commission adopts new §298.215 which establishes the priority date for any set-asides and any modeling of the environmental flow standards as the date the commission received the report from the science team, which was December 1, 2009. In response to comments, the commission added the sentence "The priority date for the environmental flow standards will be used in the water availability determination for a new appropriation or for an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted and has no other purpose. . ." to adopted §298.215. The commission intends to protect high flow pulse standards from being permitted to smaller applicants for new appropriations because under adopted §298.230, the high flow pulse standards would not be included in water right permits for new appropriations of less than 10,000 acre-feet. In addition, the commission needs to ensure that new appropriations, or amendments to add a new appropriation, will not affect downstream flow standards at measurement points that are not applicable to those new appropriations or amendments. The commission also adds these changes to ensure consistency with adopted §298.20. The commission also corrected a typographical error by adding the phrase "Set-Asides and" to the heading.

§298.220, Schedule of Flow Quantities

The commission adopts new §298.220 regarding the schedule of flow quantities to explain the implementation of the environmental flow standards in §298.225. The commission reserves the right to not use the exact wording of the section in water right permits issued after the adoption of these rules. However, this section does express how the commission intends to implement the adopted environmental flow standards in water right permit applications for new appropriations. Subsistence flows are intended to be the minimum flows below which the commission will not allow diversions or storage of water. Therefore, the water right holder may not divert or store water if the flow at the applicable measurement point is below the subsistence flow standard. If the flow is above the subsistence flow standard but below the base flow standard, then the water right holder may divert or store water down to the subsistence flow standard. Once the flow at the applicable measurement point is above the base flow standard for the season, then the water right holder may store or divert water according to its permit, as long as the flow at the measurement point does not fall below the applicable base flow standard. The commission adopts that two pulse flows per season be allowed to pass if the flows are above the base flow standard for the season and if the peak flow trigger level is reached at the measurement point. The commission adopts that the requirement that summer and fall seasons can be considered together for purposes of determining compliance with the two per season pulse flow requirement. Once the trigger conditions are met, the water right holder may not store or divert water until either the applicable pulse volume passes the measurement point or the applicable pulse duration has occurred. However, the water right holder may store or divert water in excess of the pulse flow trigger level so long as any diversions or storage do not prevent the pulse flow trigger level, or volume and duration requirements, from being met. The adopted rule does not require the water right holder to produce a pulse flow. Pulses occur because of high rainfall events. The adopted rule does require that during two of these high rainfall events per season, the high flow pulse be allowed to pass downstream. If in a particular season, only one of the high flow pulses identified in the commission's adopted rule is generated, then there would be no need to "catch up" or allow more than two high flow pulses to pass in the following season. The commission specifically requested comments on alternative ways to implement the environmental flow standards of §298.225.

The commission considered these comments and modified this section to provide more clarity in the rules. In response to comments, the commission added the sentence "The applicable subsistence flow standard varies depending on the seasons as described in §298.205 of this title." and the word "applicable" to adopted §298.220(b). These changes clarify that the definition for the seasons is found in adopted §298.205, that the subsistence flow standard can be variable depending on the season, and that only the subsistence flow for a particular season limits diversions by a water right subject to the standards in that season. Second, the commission added the phrases "§298.205" and "high flow pulse" and deleted "§298.230" and "peak flow" from adopted §298.220(c) to conform to the changes in adopted §298.220(b). Third, the commission replaced a semi-colon with a comma in adopted §298.220(d). Fourth, in response to comments, the commission added the words and phrases "applicable high flow pulse", "except during times that streamflow at the applicable measurement point exceeds the applicable high flow pulse trigger level and", "applicable", "high flow pulse", and "level" to adopted §298.220(d)(1). The commission also deleted the words "peak flow" and "rate" from adopted §298.220(d)(1). The commission made these changes to clarify how a high flow pulse requirement would apply to a water right subject to the standards and to ensure consistency with adopted §298.275(d) because the commission intends to apply any high flow pulse requirements to water rights subject to the standards in Subchapters B and C in the same manner. In addition, these changes clarify that a water right owner can divert water in excess of the applicable pulse requirement so long as those diversions do not prevent the occurrence of the peak flow of the applicable pulse and so long as the duration or volume requirement is met for that pulse. Fifth, in response to comments, and to ensure consistency within adopted §298.220, the commission added the words and phrases "applicable high flow pulse", high flow pulse", and "level" to adopted §298.220(d)(2) and deleted the words "peak flow", "peak", and "rate" from adopted §298.220(d)(2). Sixth, in response to comments, the commission deleted §298.220(d)(3): "For purposes of this section, compliance with seasonal high flow pulse frequency requirements is determined by Fall, defined as October through November; Spring, defined as March through June; Summer, defined as July through September; and Winter, defined as December through February. " The commission deleted this section to ensure consistency with adopted §298.225 and renumbered the remaining paragraph. This change to the adopted rule creates a more simplified flow regime, for purposes of water rights administration, because

EXHIBIT 1

seasonality for subsistence flow, base flow, and high flow pulses is the same in the adopted rule. Seventh, the commission added the phrase "With the exception of summer and fall, which are treated as a single season for purposes of pulse flow requirements, each" and deleted the word "Each" from adopted §298.220(d)(3) to ensure consistency with adopted §298.225. This change also ensures consistency with the calculation of the specific high flow pulse values for these seasons in adopted §298.225. Eighth, the commission added §298.220(e): "(e) A water right owner that has stored water in accordance with the terms and conditions of its water right, including any applicable environmental flow requirement in effect at the time the water was stored, may divert, release, or use this water, even if the applicable environmental flow requirement is not met at the time of the subsequent diversion, release, or use of that stored water." The commission added this subsection to clarify that if a water right owner stored water at a previous time, and complied with the applicable environmental flow requirements at that time, the water right owner would not need to comply with any environmental flow requirements in effect when subsequent use of that stored water occurs. Finally, to ensure consistency with adopted §298.225, and to correct the location of the specific measurement points and flow values in this chapter, the commission adds the phrases "§298.225" and "Environmental Flow Standards" and deleted the phrases "§298.230" and "Water Right Permit Conditions" from adopted §298.220(a).

§298.225, Environmental Flow Standards

The commission adopts new §298.225 to provide the environmental flow standards of TWC, §11.1471, for the basin and bay system composed of the Trinity and San Jacinto Rivers, associated tributaries, and the Galveston Bay system. The commission based its decision on consideration of sound science and other public interests and relevant factors. In the absence of a consensus recommendation from the stakeholders, which balanced science with other public interests, the commission adopts standards based on available information, recommendations from the stakeholders, recommendations from the science teams, and comments to the proposed rule. The measurement points are those recommended by the majority of the stakeholders and that portion of the science team identified as the "conditional group." In addition, to ensure that the adopted standards take into account the geographic extent of the river basin and bay system, two additional measurement points are adopted. These additional measurement points were recommended as locations for adaptive management by the "conditional group" of the science team and were also recommended by the portion of the science team identifying themselves as the "regime group," as well as the remaining stakeholders. The adopted base flow and subsistence flow standards are based on comments to the proposed rule. The commission acknowledges concerns related to low flow levels. Therefore, specific values for base and subsistence flow standards for all of the measurement points in adopted §298.225 in the Trinity River Basin were generally changed based on specific values recommended by commenters. Specific values for subsistence flow standards for the measurement points in the adopted §298.225 in the San Jacinto Basin were generally changed based on specific values recommended by commenters. For the base flow standards, in the San Jacinto Basin the starting point was generally the specific values recommended by commenters, which were then increased based on further comment at the April 20, 2011 public meeting for adoption of the rules. The adopted high flow pulse standards are based, in part, on comments to the proposed rule. These simplified high flow pulse requirements and the changes in seasonality are consistent with recommendations from some members of the science team and are based on a balance of the best available science and human and other competing needs for water. The adopted bay and estuary freshwater inflow standards for Galveston Bay are based on the recommendations of the majority of the stakeholders and comments received on the proposed rule and include seasonal values and frequencies based on a balancing of human and other competing needs for water.

The executive director performed an analysis to address the issue of balancing human and other competing needs for water in the basin and bay system. The executive director did not look at every possible future water use scenario, but limited the selection of scenarios to those that could reasonably be expected to be implemented before the environmental flow standards are reconsidered, in accordance with the schedule in §298.240. The executive director did not look at longer term water use scenarios, i.e., 50 years in the future, because there will be another opportunity to look at those long-term scenarios through HB 3/SB 3's adaptive management provisions. Under those provisions, the standards will be re-examined based on improved science and the stakeholders will have another opportunity to re-evaluate the issue of balancing human and other competing needs for water in the basin and bay system.

The executive director reviewed the Regional Water Plans for Regions C and H, as those regions are delineated by the TWDB for the Regional Water Planning process. Based on this review, the executive director selected one future use scenario for the balancing analysis from the Trinity River Basin and one from the San Jacinto River Basin. This analysis, conducted to address the issue of balancing human and other competing needs for water in the basin and bay system is not intended as a finding that water is or is not available for appropriation. For all evaluations, the executive director used the commission's WAM for the specific river basin and modified it by adding the selected scenario. Each scenario is different, therefore the application of criteria and reporting of results varies based on the specifics of the scenario. The executive director performed analyses to estimate water availability under three conditions: 1) application of the adopted environmental flow standard; 2) application of the commission's current default methodology; and 3) no environmental flow requirements. Copies of the WAMs used in this analysis are available at: *http://www.tceq.texas.gov/goto/eflows/rulemaking.*

For the Trinity River Basin scenario, applying either the default methodology or no instream flow or freshwater inflow requirement produces an annual availability of 83%. Application of the adopted standards also produced an annual availability of 83%. For the San Jacinto River Basin, no measurement points are adopted in the rule near the location of the scenario. In this case, no instream flow standards were applied in the analysis. However, the scenario would be subject to the adopted bay and estuary freshwater inflow standards. No specific freshwater inflow constraints were included in the WAM. Instead, the scenario was added to the WAM and processed. Then the flows at the basin outlet were processed to determine whether the annual and seasonal values and frequencies in the adopted rule were met. If the annual and seasonal values and frequencies in the adopted rule were not met, the demand for the scenario was reduced. This process was performed iteratively until the annual and seasonal frequencies and values were met.

Applying the commission's default methodology resulted in less water than would be available without instream flow or fresh-

EXHIBIT 1

water inflow requirements. Applying the bay and estuary freshwater inflow standard adopted by this rule resulted in less water than would be available under either application of the default methodology or application of no environmental flow requirements. The reliability of available water varied depending on the environmental flow condition. Reliability with application of either the bay and estuary freshwater inflow standard or no environmental flow requirements was comparable, and both of these conditions resulted in more reliable water than application of the default methodology. The executive director also considered whether reduction of the adopted standards would result in a significant increase in the yield of these projects and found that it did not. Based on the results of the analysis, the executive director determined that there would be no significant impact from implementation of the adopted standards.

The adopted rule does not set aside any unappropriated water to protect the adopted environmental flow standards. Unappropriated water is not available to protect the subsistence and base flows. Any unappropriated water that is available in these river basins is available only during relatively wet conditions. In theory, some water might be able to be set aside for high flow pulses. The commission is of the opinion that the environmental flow standards may be adequately protected by special conditions in water right permits or amendments for new appropriations of water in these basins. Special conditions are a more effective method to maximize the use of water by allowing water to be used for dual purposes. Special conditions to protect environmental flows may allow water permitted to downstream senior water rights, as well as return flows and permitted but unused water, to satisfy the special conditions.

In response to comments, the commission added the phrases "on either a seasonal or annual basis" and "to Galveston Bay, as described in Figure: 30 TAC §298.225(a)" to adopted §298.225(a). Second, in response to comment, the commission also deleted the words and phrases "or associated coastal basins that drains to Galveston Bay" and "following" from adopted §298.225(a). These changes implement the seasonal requirements in the adopted figure in §298.225(a) and ensure consistency with adopted §298.225(b). The commission includes seasonal components in the adopted rule to provide additional protection during lower flow seasons. The commission did not receive recommendations for freshwater inflow standards for the coastal basins from the stakeholders, or commenters to the proposed rule. Therefore, the commission does not adopt freshwater inflow standards for the coastal basins that drain to Galveston Bay at this time.

Third, in response to comments, the commission also adds §298.225(b): "(b) The freshwater inflow standards are subject to adjustment, in accordance with TWC, §11.147(e-1). The adjustment for each inflow level is calculated by adding the volumes for all of the seasons in that inflow level for the entire year and multiplying that annual total volume by 12.5% to generate the maximum adjustment amount. The maximum adjustment, including the effect of any previous adjustments, cannot increase the total volume for that inflow level above the sum of the annual total of the original volume requirement for that level plus the 12.5% adjustment." The commission adds this subsection to the adopted rule to clarify how adjustment of the freshwater inflow standards in §298.225(a) will occur. Fourth, the commission deletes the proposed figure in §298.225(a) and adds a new figure in §298.225(a) to reflect the addition of seasonal values to the adopted freshwater inflow standards. The freshwater inflow standards in the adopted rule represent a balance between the two recommendations of the stakeholder group and comments to the proposed rule. Fifth, the commission corrected the name of the gage, Trinity River at Dallas, in adopted §298.225(c)(2) and East Fork San Jacinto River near Cleveland in adopted §298.225(c)(5).

Finally, in response to comments, the commission deletes the figures in §298.225(b)(1) - (6). The commission adopts the modified and renumbered figure in §298.225(c)(1) - (6). These changes are to ensure consistency with adopted §298.205 and §298.220. The values in the adopted figures reflect the commission's consideration of comments on the proposed rule by changing specific values for subsistence, base, and high flow pulse standards as described previously. This adopted section implements TWC, §11.1471.

§298.230, Water Right Permit Conditions

The commission adopts new §298.230 relating to water right permit conditions. The adopted provision requires the commission to place special conditions in water right applications for new appropriations and amendments that would add additional appropriations to existing permits. The special conditions would be to protect the environmental flow standards established by the subchapter. Water right permit applications to divert or store 10,000 acre-feet per year or less would not contain the special conditions relative to high flow pulses. In response to comments, the commission deleted the phrase ", to the maximum extent reasonable, considering other public interests and other relevant factors" from adopted §298.230(a) and (b). The commission agrees that TWC, §11.147(e-3), would not allow this balancing when implementing the adopted rule. This adopted new section implements TWC, §11.134(b)(3)(D) and §11.1471.

§298.240, Schedule for Revision of Standards

The commission adopts new §298.240 to provide the schedule for re-examination of the environmental flow standards. The commission will consider taking up a rulemaking to change the standards ten years from the effective date of the rules. The commission notes that it is prohibited from providing that the rulemaking process occurs more frequently than once every ten years unless the stakeholders' workplan approved by the Advisory Group under TWC, §11.02362(p), calls for a more frequent schedule. The commission notes that, when it proposed this rule, it had not received an approved workplan from the stakeholder committee. The commission will consider changing its proposal on adoption of the rule if it has received an approved workplan by the date this rule is considered for adoption at the commission agenda. The commission is also of the opinion that should it receive an approved workplan after final adoption of this rule package, the commission is free to consider an amendment to this section and change the schedule more often than once every ten years. In response to comment, the commission added the phrase "by a balanced representation" to adopted §298.240. The commission made this change to ensure that the adopted rule is consistent with TWC, §11.0235(d)(6) and §11.02362(f)(1). The commission also corrected a typographic error. The adopted new section implements TWC, §11.1471(f).

Subchapter C: Sabine and Neches Rivers, and Sabine Lake Bay.

The commission adopts Subchapter C to contain all of the environmental flow standards and rules specific to the basin and bay system composed of the Sabine and Neches Rivers, their associated tributaries, and Sabine Lake Bay. The science team delivered its report to the commission on November 30, 2009. The stakeholder committee delivered its recommendations to

EXHIBIT 1

the commission on May 24, 2010. The commission understands that it is now its duty to adopt environmental flow standards under TWC, §11.02362(c)(5). This adopted new subchapter implements the schedule established by the Advisory Group under TWC, §11.02362, and environmental flow standards required of the commission in TWC, §11.1471. The adopted title of Subchapter C has been modified to read as "Sabine and Neches Rivers, and Sabine Lake Bay."

§298.250, Applicability and Purpose

The commission adopts new §298.250 to describe the purpose of Subchapter C and in what circumstances it applies. In response to comment, the commission added the phrase "In case of a direct conflict, provisions" and deleted the word "Provisions" from adopted §298.250 to clarify the circumstances where the provisions of Subchapter C control over those in Subchapter A.

§298.255, Definitions

The commission adopts new §298.255 regarding definitions. The adopted section has definitions of terms that will apply only to this subchapter. In response to comments, the commission deletes §298.255(1), (2) and (7), which are definitions for "Average condition", "Dry condition", and "Wet condition" from adopted §298.255 and renumbers the remaining paragraphs in this section. The commission considered information from the SAC, as well as comments to the proposed rule that identified specific implementation issues associated with hydrologic condition triggers. The commission also considered its balancing analysis, which addressed human and other competing needs for water. Based on this analysis, the commission does not adopt hydrologic condition triggers or multiple levels of base flow at this time, and instead adopts a more simplified flow regime for this basin and bay system. In §298.255(1), (2), (4), and (5) the commission adopts definitions for the seasons, "Fall," "Spring," "Summer," and "Winter" because the environmental flow standards for this basin and bay system vary by season. The definitions are the same as the definitions of the seasons in the recommendations of the science team. In §298.255(3) the commission adopts a definition for "Sound ecological environment," which is the same definition as presented by the stakeholders.

§298.260, Findings

The commission adopts new §298.260 regarding findings related to sound ecological environments. The adopted finding regarding the ecological environment is in keeping with the stakeholder committee report. The adopted finding regarding maintenance of the ecological environment is based on the science team report. Additional information on the commission's reasoning for the adopted schedule of flow quantities and environmental flow standards can be found in this preamble under the analyses for §§298.255, 298.275, and 298.280. In response to comments and to ensure consistency with adopted §§298.255, 298.275, and 298.280, which delete hydrologic condition triggers and remove multiple levels of base flow and one level of high flow pulses, the commission added the words and phrases "these", "environments", "contain", "one level", "will", "by year", and "whether a system is in subsistence or base flow conditions, will vary from year to year and within a year from season to season, and the number of pulses protected will also vary with the amount of precipitation" to adopted §298.260(b). The commission also deleted the words and phrases "this", "environment", "includes", "two levels", "shall", "by hydrological conditions", and "streamflow varies from year to year" for the same reasons. This adopted new section implements TWC, §11.1471.

§298.265, Set-Asides and Standards Priority Date

The commission adopts new §298.265 that establishes the priority date for any set-asides and any modeling of the environmental flow standards as the date the commission received the report from the science team, which was November 30, 2009. In response to comments, the commission added the sentence "The priority date for the environmental flow standards will be used in the water availability determination for a new appropriation or for an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted and has no other purpose" to adopted §298.265. The commission intends to protect high flow pulse standards from being permitted to smaller applicants for new appropriations because under adopted §298.285, the high flow pulse standards would not be included in water right permits for new appropriations of less than 10,000 acre-feet. In addition, the commission needs to ensure that new appropriations, or amendments to add a new appropriation, that are subject to the environmental flow standards, will not affect downstream flow standards at measurement points that are not applicable to those new appropriations or amendments. The commission also adds these changes to ensure consistency with adopted §298.20.

In response to comments, the commission is withdrawing the proposal of §298.270. This section described the calculation of hydrologic conditions. However, at this time, the commission is not adopting hydrologic conditions for the reasons stated previously.

§298.275, Schedule of Flow Quantities

The commission adopts new §298.275 to explain the implementation of the environmental flow standards in §298.280. The commission does not intend to be bound to use the exact wording of this section in water right permits issued after the adoption of these rules. However, this section does express how the commission intends to implement the adopted environmental flow standards in water right permit applications for new appropriations. Subsistence flows are intended to be the minimum flows below which the commission will not allow diversions or storage of water. Therefore, the water right holder may not divert or store water if the flow at the applicable measurement point is below the subsistence flow standard. If the flow is above the subsistence flow standard but below the base flow standard, then the water right holder may divert or store water down to the subsistence flow standard. Once the flow at the applicable measurement point is above the base flow standard for the season, then the water right holder may store or divert water according to its permit, as long as the flow at the measurement point does not fall below the applicable base flow standard.

The commission adopts the requirement that two high flow pulses per season be allowed to pass during the Spring and Fall seasons and one high flow pulse per season be allowed to pass during the Winter and Summer seasons, if the flows are above the base flow standard for the season and if the peak flow trigger level is reached at the measurement point. Once the trigger conditions are met, the water right holder may not store or divert water until either the applicable pulse volume passes the measurement point or the applicable pulse duration has occurred. However, the water right holder may store or divert water in excess of the pulse flow trigger level so long as any diversions or storage do not prevent the pulse

EXHIBIT 1

flow trigger level, or volume and duration requirements, from being met. The adopted rule does not require the water right holder to produce a pulse flow. Pulses occur because of high rainfall events. The adopted rule does require that during two of these high rainfall events per season during the Spring and Fall seasons, and during one of these high rainfall events during the Summer and Winter seasons, the high flow pulse be allowed to pass downstream. If in a particular season, depending on the seasonal requirement, either none or one of the high flow pulses identified in the commission's adopted rule is generated, then there would be no need to "catch up" or allow more than one or two high flow pulses to pass in the following season. The commission specifically requested comments on alternative ways to implement the environmental flow standards of §298.280 and considered those comments in development of the adopted standards. The commission balanced scientific recommendations with human and other competing needs for water in developing the adopted standards.

In response to comments, including an alternate recommendation, the commission added the phrase and word "one level of" and "ten" and deleted the word "eleven" from adopted §298.275(a). Second, in response to comments, the commission added the sentence "The applicable subsistence flow standard varies depending on the seasons described in §298.255 of this title." and the words "applicable", and "standard" to adopted §298.275(b) and deleted the word "level" from §298.275(b). These changes clarify that the definition for the seasons is found in adopted §298.255, that the subsistence flow standard can be variable depending on the season, and that only the subsistence flow for a particular season limits diversions by a water right subject to the standards in that season. Third, in response to comments, the commission added the words and phrases "seasons as", "§298.255", "a", and "trigger" to adopted §298.275(c) and deleted the words and phrases "hydrologic conditions", "§298.270", "the", and "for the climatic condition prevailing at that time, i.e., the water right will be subject to either: a dry base flow; an average base flow; or a wet base flow standard" from adopted §298.275(c) to conform to the changes in adopted §298.275(a) and §298.280. Fourth, the commission replaced a semi-colon with a comma in adopted §298.275(d). Fifth, in response to comments, the commission added the words and phrases "during the Spring and Fall seasons and one pulse per season is to be passed during the Winter and Summer seasons", "flows are above the applicable base flow standard", "applicable high flow pulse", "except during times that streamflow at the applicable measurement point exceeds the applicable high pulse flow trigger level and", "applicable", "high flow pulse", and "level" to adopted §298.275(d)(1). The commission also deleted the words and phrases "smaller magnitude", "hydrologic condition is average or wet," "peak flow", "rate", and "Under dry hydrologic conditions during the spring and summer seasons, only one smaller-magnitude pulse shall be passed, if the peak flow trigger level is met at the measurement point. Under dry hydrologic conditions during the fall and winter, no high flow pulses need be passed." from adopted §298.275(d)(1). The commission made these changes to clarify how a pulse flow requirement would apply to a water right subject to the standards and to ensure consistency with adopted §298.220(d) because the commission intends to apply any pulse flow requirements to water rights subject to the standards in Subchapters B and C in the same manner. In addition, these changes clarify that a water right owner can divert water in excess of the applicable pulse requirement so long as those diversions do not prevent the occurrence of the peak flow of the applicable pulse. Sixth, the commission deleted §298.275(d)(2): "(2) During wet conditions and in addition to the two smaller-magnitude pulses, a single larger-magnitude pulse must be passed; a water right holder shall not divert or store water until either the volume amount has passed the measurement point, or the duration time has passed since the peak flow trigger rate occurred." from the adopted rule. The commission deleted this section to ensure consistency with adopted §298.280 and renumbered the remaining paragraphs. Seventh, the commission added the words and phrases "applicable high flow pulse", "level", and "high flow pulse" to adopted §298.275(d)(2) and deleted the words "peak", and "rate", from the adopted §298.275(d)(2) to ensure consistency with adopted §298.225. Eighth, the commission added §298.275(e): "(e) A water right owner that has stored water in accordance with the terms and conditions of its water right, including any applicable environmental flow requirement in effect at the time the water was stored, may divert, release, or use this stored water, even if the applicable environmental flow requirement is not met at the time of the subsequent diversion, release, or use of that stored water." The commission added this subsection to clarify that if a water right owner stored water at a previous time, and complied with the applicable environmental flow requirements at that time, the water right owner would not need to comply with any environmental flow requirements in effect when subsequent use of that stored water occurs. Finally, to ensure consistency with adopted §298.280, and to correct the location of the specific measurement points and flow values in this chapter, the commission adds the phrases "§298.280" and "Environmental Flow Standards" and deleted the phrase "§298.270" and "Calculation of Hydrologic Condition" from the adopted §298.275(a).

§298.280, Environmental Flow Standards

The commission adopts new §298.280 to provide the environmental flow standards of TWC, §11.1471, for the basin and bay system composed of the Sabine and Neches Rivers, associated tributaries, and Sabine Lake Bay. The commission based its decision on consideration of sound science and other public interests and relevant factors. In the absence of a recommendation from the stakeholders, which would have balanced science with other public interests, the commission adopts standards based on available information, recommendations from the science team, and comments on the proposed rule.

The adopted standards in §298.280 are not based solely on scientific information. The commission also considered human and other competing needs for water in developing the adopted standards. The commission does not find that there is sufficient existing scientific evidence to indicate that the standards, once adopted would not support a sound ecological environment. Therefore, the commission does not adopt hydrologic condition triggers or multiple levels of base flows and instead adopts a more simplified flow regime. The commission acknowledges concerns related to low flow levels. Therefore, specific values for the base flow standards for all of the measurement points in the adopted §298.280 were increased by 10% over the proposed standards. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient flow variability. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system.

EXHIBIT 1

The measurement locations are those recommended by the science team, with the exception of USGS gage 08038000, Attoyac Bayou near Chireno, Texas and USGS Gage 08028500, Sabine River near Bon Weir. The commission notes that, when it proposed this rule, daily discharge information was not publically available for USGS gage 08038000, Attoyac Bayou near Chireno, Texas. For this location, the lack of readily accessible daily data could have created implementation issues for specific water right holders who could be subject to an environmental flow standard at this location; therefore, the commission has not adopted environmental flow standards at this location. In addition, for USGS Gage 08028500, Sabine River near Bon Weir, the commission considered comments related to the calculation of flows at this gage and determined that this gage should not be included in adopted §298.280. The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations and balanced human and other competing needs for water and other factors with the scientific recommendations to develop the adopted standards. The science team did not recommend bay and estuary standards for Sabine Lake Bay. After reviewing available information from the science team, stakeholders, and commenters on the proposed rule, the commission did not include freshwater inflow requirements in the adopted standards. Pulse flow requirements in permits for new appropriations of water and naturally occurring flood events should provide sufficient freshwater inflows to Sabine Lake. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient freshwater inflows to Sabine Lake.

The executive director performed an analysis to address the issue of balancing human and other competing needs for water in the basin and bay system. The executive director did not look at every possible future water use scenario, but limited the selection of scenarios to those that could reasonably be expected to be implemented before the environmental flow standards are reconsidered in accordance with the schedule in §298.290. The executive director did not look at longer term water use scenarios, i.e., 50 years in the future, because there will be another opportunity to look at those long-term scenarios through HB 3/SB 3's adaptive management provisions. Under those provisions, the standards will be re-examined based on improved science and the stakeholders will have another opportunity to re-evaluate the issue of balancing human and other competing needs for water in the basin and bay system.

The executive director reviewed the Regional Water Plans for Regions C, D, and I, as those regions are delineated by the TWDB for the Regional Water Planning process. Based on this review, the executive director selected one future water use scenario for the balancing analysis from the Sabine River Basin and one from the Neches River Basin. For all evaluations, the executive director used the commission's WAM for the specific river basin and modified it by adding the selected scenario. Each scenario is different; therefore, the application of criteria and reporting of results varies based on the specifics of the scenario. The executive director performed analyses to estimate water availability under three conditions: 1) application of the adopted environmental flow standard; 2) application of the commission's current default methodology; and 3) no environmental flow requirements. The commission's WAM for the Sabine River Basin accounts for Texas' obligations under the Sabine River Compact. Copies of the WAMs used in this analysis are available at: *http://www.tceq.texas.gov/goto/eflows/rulemaking.*

For the Sabine River Basin scenario, applying either the default methodology or no instream flow requirement produces an annual availability of 97%. Application of the standards adopted in this rule produces an annual availability of 95% or a 2% decrease as compared to the amount available under the other environmental flow conditions. For the Neches River Basin scenario, the maximum annual availability under each of the three conditions varied slightly. The 50th percentile annual diversion amounts exhibited greater variation, with application of the adopted standards resulting in the lowest annual availability in this range, although this reduction is not significant.

The executive director also considered whether reduction of the adopted standards would result in a significant increase in the yield of these projects and found that it did not. Based on the results of the analysis, the executive director determined that there would be no significant impact from implementation of the adopted standards. The adopted rule does not set aside any unappropriated water to protect the adopted environmental flow standards. Unappropriated water is not available to protect subsistence and base flows. Any unappropriated water that is available in these river basins is only available during relatively wet conditions. In theory, some water might be able to be set aside for high flow pulses. The commission is of the opinion that the environmental flow standards may be adequately protected by special conditions in water right permits or amendments for new appropriations of water in these basins. Special conditions are a more effective method to maximize the use of water by allowing water to be used for dual purposes. Special conditions to protect environmental flows may allow water permitted to downstream senior water rights, as well as return flows and permitted but unused water, to satisfy the special conditions.

In response to comments, the commission deleted §298.280(4) and renumbered the remaining paragraphs and figures. The commission determined that USGS Gage 08028500, Sabine River near Bon Weir should not be included as a measurement point in the adopted rule. The commission also corrected the gage name Neches River near Rockland in adopted §298.280(7) and in the caption for the figure in §298.280(7).

Additionally, in response to comments, the commission deleted the figures in §298.280(1) - (3), and §298.280(5) - (11). The commission adopts the modified and renumbered figures in §298.280(1) - (10). These changes are to ensure consistency with adopted §298.255 and §298.275. The values in the adopted figures reflect the commission's consideration of comments on the proposed rule by changing specific values for subsistence, base, and high flow pulse standards as described above. This adopted new section implements TWC, §11.1471.

§298.285, Water Right Permit Conditions

The commission adopts new §298.285 to require the commission to place special conditions in water rights for new appropriations and amendments that would add additional appropriations to existing permits. The special conditions would be to protect the environmental flow standards established by the subchapter. Water right permit applications to divert or store 10,000 acre-feet or less per year would not contain the special conditions relative to high flow pulses. The commission deleted the phrase ", to the maximum extent reasonable, considering other public interests and other relevant factors" from adopted §298.285(a) and (b) and corrected a typographic error in adopted §298.285(b). The

EXHIBIT 1

commission agrees that TWC, §11.147(e-3) would not allow this balancing when implementing the adopted rule. This adopted new section implements TWC, §11.134(b)(3)(D) and §11.1471.

§298.290, Schedule for Revision of Standards

The commission adopts new §298.290 to provide the schedule for re-examination of the environmental flow standards. The commission will consider taking up a rulemaking to change the standards ten years from the date of adoption of the rules. The commission notes that it is prohibited from providing that the rulemaking process occurs more frequently than once every ten years, unless the stakeholders' workplan approved by the Advisory Group under TWC, §11.02362(p), calls for a more frequent schedule. The commission notes that, when it proposed this rule, it had not received an approved workplan from the stakeholder committee. The commission will consider changing its proposal on adoption of the rule if it has received an approved workplan by the date this rule is considered for adoption at the commission agenda. The commission is also of the opinion that should it receive an approved workplan after final adoption of this rule package, the commission is free to consider an amendment to this section and change the schedule more often than once every ten years. The commission added the word "revised" and removed the word "altered" from adopted §298.290 to ensure consistency with the language in adopted §298.240. In response to comment, the commission added the phrase "by a balanced representation" to adopted §298.290. The commission made this change to ensure that the adopted rule is consistent with TWC, §11.0235(d)(6) and §11.02362(f)(1). The commission also corrected a typographic error by adding the word "periodic" and deleting the word "period." This adopted new section implements TWC, §11.1471(f).

Final Regulatory Impact Analysis Determination

The commission evaluated these adopted rules and performed an analysis of whether these adopted rules require a regulatory impact analysis under Texas Government Code, §2001.0225. These amendments are not a "major environmental rule" under Texas Government Code, §2001.0225 because although the specific intent of the rulemaking is to protect the environment, these rules do not potentially adversely affect in a material way the economy or a sector of the economy. Additionally, the purpose of these rules is not to exceed a standard set by federal law, exceed an express requirement of state law, exceed a requirement of a delegation agreement or contract between the state and an agency of the federal government to implement a state and federal program, or to adopt rules solely under the general powers of the agency instead of specific state law. This rulemaking is specifically required by TWC, §11.1471. The purpose of these rules is to establish environmental flow standards, set-asides (if available), and procedures for implementing an adjustment of these standards, if required, in a permit or amendment for the river and bay systems consisting of the Sabine and Neches Rivers and Sabine Lake Bay, and the Trinity and San Jacinto Rivers and Galveston Bay, as required by TWC, §11.1471(a). Therefore, no regulatory impact analysis is required under Texas Government Code, §2001.0225, for this rulemaking.

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. The commission did not receive any comments regarding the draft regulatory impact analysis determination.

Takings Impact Assessment

The commission evaluated these adopted rules and performed an analysis of whether they constitute a taking under Texas Government Code, Chapter 2007. The specific purpose of these rules is to establish environmental flow standards, set-asides (if available), and procedures for implementing an adjustment of these standards, if required, in a permit or amendment for the river and bay systems consisting of the Sabine and Neches Rivers and Sabine Lake Bay, and the Trinity and San Jacinto Rivers and Galveston Bay, as expressly required by TWC, §11.1471(a). Promulgation and enforcement of these adopted rules would be neither a statutory nor a constitutional taking of private real property. Specifically, because under TWC, §11.147(e-1), these rules cannot be retroactively applied to water rights issued before September 1, 2007, the subject adopted regulations do not affect a landowner's rights in private real property. Thus, this rulemaking does not burden (constitutionally) nor restrict or limit the owner's right to existing property and reduce its value by 25% or more beyond that which would otherwise exist in the absence of the regulations.

Consistency with the Coastal Management Program

The commission reviewed the adopted rulemaking and found that the adoption is subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act, Texas Natural Resources Code, §§33.201 *et seq.,* and, therefore, must be consistent with all applicable CMP goals and policies. The commission conducted a consistency determination for the adopted rules in accordance with Coastal Coordination Act Implementation Rules, 31 TAC §505.22, and found the adopted rulemaking is consistent with the applicable CMP goals and policies.

CMP goals applicable to the adopted rules include: 1) to protect, preserve, restore, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas; and 2) to ensure sound management of all coastal resources by allowing for compatible economic development and multiple human uses of the coastal zone. CMP policies applicable to the adopted rules include those contained in 31 TAC §501.33. The adopted rules implement HB 3/SB 3, which established the environmental flows process to provide certainty in water management and development and to provide adequate protection of the state's streams and rivers, bays, and estuaries. Since one of the purposes of the adopted rules is to protect coastal natural resources, the rules are consistent with CMP goals and policies.

Promulgation and enforcement of these rules will not violate or exceed any standards identified in the applicable CMP goals and policies because the adopted rules are consistent with these CMP goals and policies, because these rules do not create or have a direct or significant adverse effect on any coastal natural resource areas, and because one of the purposes of the adopted rules is to protect coastal natural resources.

The commission invited public comment regarding the consistency with the coastal management program during the public comment period. The commission did not receive any comments regarding the consistency with the coastal management program.

Public Comment

The commission held a public hearing for these rules on December 16, 2010, in Austin, Texas. The comment period closed on December 20, 2010. The commission received comments from: Angelina and Neches River Authority (ANRA); Bay Area Houston Economic Partnership (BAHEP); Bayou Land Con-

EXHIBIT 1

servancy (BLC); Bayou Preservation Association (BPA); Big Thicket Association (BTA); Big Thicket National Preserve (Big Thicket); Brazos River Authority (BRA); Café Express; City of Austin (Austin); City of Dallas' Water Utilities (DWU); Coastal Conservation Association Texas (CCA Texas); Consumer Energy Alliance (CEA); Eagle Point Fishing Camp, Inc.; Environmental Stewardship; Espey Consultants, Inc. on behalf of the Tarrant Regional Water District, San Jacinto River Authority (SJRA), North Texas Municipal Water District (NTMWD), Trinity River Authority of Texas (TRA), North Harris County Regional Water Authority, DWU, City of Houston, and Chambers-Liberty Counties Navigation District (Espey); Evangeline Café; Fish City Grill; Foodways Texas; Freese and Nichols, Inc. (FNI); Friends of the Neches River; Galveston Bay Conservation and Preservation Association (GBCPA); Galveston Bay Foundation (GBF); Galveston Baykeeper; Houston Audubon; Houston Regional Group of the Sierra Club (Sierra Club-Houston); Junior Anglers and Hunters of America; Kelly Hart and Hallman, L.L.P. (KHH); Lloyd Gosselink Rochelle and Townsend, P.C., on behalf of its clients (LGRT); Lone Star Chapter of the Sierra Club (Sierra Club-Lone Star); Louisiana Foods Global Seafood Source; Lower Colorado River Authority (LCRA); Lower Neches Valley Authority (LNVA); National Wildlife Federation; National Wildlife Federation Action Fund on behalf of National Wildlife Federation Action Fund and 841 individuals (NWFAF); National Wildlife Federation and Sierra Club-Lone Star (NWF/LSCSC); National Wildlife Federation's South Central Regional Center on behalf of the National Wildlife Federation, Sierra Club-Lone Star, Environment Texas, GBCPA, Houston Audubon, BTA, Environmental Stewardship, and the law firm of Blackburn and Carter (NWFSCRC); NTMWD; NRG Texas Power, L.L.C. (NRG); Sabine River Authority of Texas (SRA Texas); SRA Texas on behalf of itself, LNVA, ANRA, Upper Neches River Municipal Water Authority (UNRMWA), and DWU (SRA Texas and Others); SRA Texas on behalf of the Sabine-Neches Bay and Basin Area Stakeholder Committee (SNBBASC); SJRA; TCEQ's Office of Public Interest Counsel (OPIC); Texas Conservation Alliance; Texas Oil and Gas Association (TXOGA); TPWD; TWDB; TRA; United States' Department of the Interior's Fish and Wildlife Service's Texas State Administrator for Ecological Services (USFWS); UNRMWA; and, Webb and Webb (WW); and more than 2,400 individuals.

The commission received comments from nine commenters in support of the proposed rule. The commission received comments from more than 2,400 commenters against the proposed rule. The commission received comments from more than 2,400 commenters that suggested changes to the proposed rule.

Response to Comments

General Comments on Chapter 298

NWF, Sierra Club-Lone Star, and more than 1,000 individuals comment that the decisions made by the TCEQ for these first two basin and bay systems will set precedents for environmental flow standards for all of the other basin and bay systems in the state.

The commission respectfully disagrees that the standards in adopted Chapter 298, Subchapters B and C will set a precedent for future rule proposals. Future rule proposals in other basin and bay systems will be based on recommendations made by the science teams and stakeholders for those basin and bay systems. No changes were made in response to this comment.

NWFAF and more than 1,600 individuals comment that the proposed standards in Chapter 298, Subchapters B and C for how much water needs to remain flowing in the Sabine and Neches Rivers, into Sabine Lake, and in the Trinity and San Jacinto Rivers, into Galveston Bay make some strides forward to protect a sound ecological environment, but they also have some key shortcomings that must be addressed.

The commission has examined specific comments on the rule proposal and made changes where appropriate within the context of HB 3/SB 3 and the environmental flows stakeholder process. No changes were made in response to this comment.

NWF wants to emphasize that this is a difficult undertaking. It is challenging and has been challenging at each stage of the process, and that's partly because the issue is so important, and it's a large one. It's also a critically important issue to the future of Texas. At stake is the well being of the state's river and our estuaries, and frankly, the natural heritage of Texas. It's really important that we do this well.

The commission acknowledges this comment.

NWF comments that ultimately, individual permits may not need to reflect the same amount of complexity that is in the standards. Permits can be evaluated to make sure that they comply with the standards, but the actual permit terms don't necessarily need to be that complex, in particular for smaller permits.

The commission generally agrees. Individual permit applications are different; therefore, special conditions may need to vary for those permits. The commission will implement these standards in each permit granted for a new appropriation of water. No changes were made in response to this comment.

TPWD comments that if it had one central message, it would be that it's very important to have transparency in these rules in terms of: 1) what tools were used to come up with particular quantitative requirements; and 2) the balancing that the TCEQ does to balance environmental needs with other competing needs and with human needs. It would probably help people avoid getting caught up with equating the proposed rules with one particular set of recommendations from a given group if the weighing/balancing factors are as transparent as they can be so that one can trace TCEQ's particular evaluation about whether a particular flow framework meets the statutory definition.

The commission acknowledges the importance of transparency and has made efforts to be transparent in the process of developing the adopted rules. In the Section by Section discussion for §298.225 and §298.280 in the preamble, the commission identifies which science team reports, stakeholder committee reports, and other information it relied upon in developing the adopted standards. Additionally, in the Section by Section discussion for §298.225 and §298.280, the commission discusses the balancing analysis it performed and identifies the Web site where the models used for the balancing analysis are available for download. No changes were made in response to this comment.

Louisiana Foods Global Seafood Source and more than five individuals request that the TCEQ maintain rules to ensure that Texas' coastal fisheries and wildlife habitats receive sufficient fresh water inputs to preserve the biodiverse ecosystems of our bays and marshes.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules and balanced the interests listed in the statutes. The commission modified the adopted rule to include a seasonal component

EXHIBIT 1

for inflows to Galveston Bay. These changes are discussed in the adoption preamble for §298.225, and the modified numerical values can be found in the adopted standard for §298.225(a).

One individual comments that the TCEQ must be vigilant to prevent individual allotments to private uses to add up to more than the established maximum allotment.

For any application for a new appropriation of water, commission staff performs a technical analysis in accordance with commission rules to determine the availability of water for that specific application. No changes were made in response to this comment.

One individual comments that there need to be adequate enforceable provisions to make sure that the flows remain stable even during drought years. To make sure, there needs to be a group of TCEQ employees to monitor the flows to make sure that users are not taking more than their allotment.

The adopted flow standards in Chapter 298 will be included in permits for new appropriations of water as special conditions. They will be enforceable provisions of those water rights. TCEQ Regional Office personnel can respond to complaints; and, if a watermaster is designated for an area, the watermaster will daily monitor diversions. No change was made in response to this comment.

One individual comments that environmental water that potentially enters publicly accessed water and creates a pollution hazard must be vigilantly assessed. Downstream sampling should be a routine part of this, with identification of the upstream polluters. In the absence of a thoughtful strategy, any program of water environmental flow standards is incomplete.

The adopted rule does not contemplate putting environmental water into state watercourses. The adopted rule establishes flow standards (water that will remain in watercourses) that must be met before diversions under permits for new appropriations of water. The rule has not been changed in response to this comment.

One individual comments that it's time for TCEQ to start emphasizing water conservation rather than simply rubber stamping requests by those who are taking the water from our rivers.

The HB 3/SB 3 process is intended to develop environmental flow standards which will apply to permits for new appropriations of water. When evaluating new permit applications, the commission will apply the applicable rules and statutes to determine if the application for diversion or storage should be granted, including rules related to water conservation. No changes were made in response to this comment.

One individual comments that there appears to be a total disconnect between what the stakeholders did and the rulemaking process. It appears there is no unappropriated water for meeting the stakeholders' recommended environmental flows. It seems that imposing projected water needs 50 years into the future leaves nothing for protecting the environment. If this is correct, the whole process is fatally flawed and should be stopped immediately. It would be a colossal waste of time and resources to proceed. This individual recommends that TCEQ staff and the SAC get together and re-scope the effort so that everyone is working with a clear understanding of the procedures that will be used to develop environmental flows within the guidelines of a realistic rulemaking process. Fifty-year planning horizons are okay for long-range planning but should not be used to set rules.

The commission followed its instructions in the TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors when drafting the proposed rules. Specific strategies in the water plans change as a result of the planning process. The commission evaluated only those strategies for new appropriations of water that could reasonably be expected to be implemented before the environmental flow standards are reconsidered in accordance with the schedule for a particular basin and bay system. Future scenarios can be addressed through the adaptive management process. The rule was not modified in response to this comment.

One individual comments that the rules that will be adopted will have a major role in the well-being of wildlife in the rivers, estuaries and bays. Please be sure that adequate water is available to protect the wildlife. Once a species habitat is destroyed, it can easily lead to a path toward extinction. Mankind has already made too many bad decisions that have led to the extinction of many species. Don't make another of these bad decisions.

The commission understands the comment but also responds that this rulemaking required balancing of all interests in determining the environmental flow standards. The balancing done by the commission is discussed in the preamble for §298.225 and §298.280. No changes were made in response to this comment.

BRA comments that flow recommendations that were developed with a Hydrology-based Environmental Flow Regime (HEFR) model in Subchapters B and C are solely based on historic flow statistics and lack site-specific scientific data and analyses describing the relationships between environmental flow and the actual needs of aquatic organisms. The premise is that if a sufficiently close representation of key elements of historical hydrology is maintained, then a reasonable approximation of the historical sound ecological environment is likely to also be maintained. However, until additional study is completed, flow requirements for a sound ecological environment and the best ways for meeting those requirements are unknown. The initial recommendations included in Subchapters B and C contain complex flow parameters that may be overly conservative with regard to what is actually required to maintain a sound ecological environment. BRA recommends that HEFR instream flow criteria be expressly acknowledged as an interim methodology to be used only until better science is developed to support an environmental flow standard more directly related to the biological needs of species of concern.

The commission followed its instructions in the TWC, §11.1471, to determine these flow standards. Concerning HEFR, the commission responds that the science teams can determine which criteria and methods they will use to develop their recommended flow regimes. The commission considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors when drafting the adopted rules. The rule has not been changed in response to this comment.

BRA comments that in most cases, water supply diversions have little or no ability to impact the pulse peak, pulse duration, or pulse volume because diversions are so small compared to the magnitude of the pulse. Therefore, curtailment of water supply diversions during a pulse without regard to the magnitude of the diversion or the pulse is overly constraining and unnecessarily reduces the reliability of a run-of-river water right (See §298.220(d)(1) and §298.275(d)(1-2)). BRA recommends that

EXHIBIT 1

part of the standards adopted by TCEQ be a trigger level for water supply diversions (e.g., 2% of the peak flow) and that only diversions of an amount greater than the trigger level be subject to limitation during peak flow events.

The commission acknowledges the comment. This is an interesting concept that future science teams or stakeholder groups may want to consider. The commission considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors, including commission staffs' water availability analyses, when drafting the proposed rules. These are the kinds of implementation procedures which the local science team and stakeholders can suggest and the commission could consider during rulemaking. This implementation procedure was not considered by either the science team or the stakeholders in these basin and bay systems. The rule was not modified in response to this comment.

BRA comments that a high flow pulse is defined by a peak discharge and a recurrence frequency. The pulse volume associated with a peak discharge varies as does the pulse duration. The proper way to characterize a pulse of a particular peak discharge and frequency is with a range of volumes and a range of durations that were observed historically. By combining pulse volume and pulse duration with a high flow pulse peak discharge recommendation, the natural variability of historical pulse events is compromised. The criteria proposed are overly constrained and unnecessarily complex (See §298.220(d)(1) and §298.275(d)(1-2)). BRA recommends that the characteristics of a pulse be defined be either the peak or the volume and duration and not a combination of the three characteristics.

The commission followed its instructions in the TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors, including commission staffs' water availability analyses, when drafting the proposed rules. The environmental flows process under HB 3/SB 3 has an adaptive management component under which pulse criteria may be reconsidered in future science team and stakeholder recommendations. The rule has not been changed in response to this comment.

BRA notes that the Texas Instream Flow Program (TIFP) relies on biology, geomorphology, water quality, and hydrology as overlays to address a sound ecological environment. However, geomorphology, water quality, and hydrology have no meaning by themselves until the implications on biological species are considered. Therefore, biology is the indicator of a sound ecological environment. BRA recommends that continued effort be made to utilize biology as an indicator of a sound ecological environment in order to replace or modify the criteria proposed in Subchapters B and C.

The commission acknowledges this comment.

BRA comments that the TCEQ's message regarding return flows seems contradictory. On the water quality/wastewater permitting/conservation side, direct reuse of wastewater is strongly encouraged, and often required, for water quality protection. At the same time, the proposed regulation seems to rely heavily on return flows to provide reliable flow during subsistence conditions. In order to achieve a partial reconciliation of this contradiction, BRA recommends that return flows be made available for indirect reuse only as a new appropriation. This would effectively make all return flows discharged to the watercourse subject to satisfaction of environmental flow requirements prior to being considered available for new appropriation.

The commission agrees that return flows can be used to provide flow during subsistence or base flow conditions, but not that they are a new appropriation of water. However, the commission notes that at the time of the adoption of this rule, the issue of how return flows should be treated in determining water availability is an issue in a contested case pending at SOAH.

USFWS comments that overbank flows were not included as part of the standards. Overbank flows are an important flow component required to maintain connectivity and the bottomland wetland and plant communities. The Service recognizes that human health and safety are paramount under all circumstances; the goal of SB 3 is not to reduce the floodplain risk but to ensure that future water right holders do not negatively affect the environment. USFWS recommends that the flow standards include an overbank component as provided under natural weather and climatic conditions.

The commission acknowledges that overbank flows are a component of a flow regime for a sound ecological environment and has modified the Section by Section discussion of §298.1 in the preamble to reflect this acknowledgement. Overbank flows are a result of naturally occurring large rainfall events, which will likely continue to occur. Therefore, the commission is not including overbank flows as a component of the adopted standards. No change has been made in response to this comment.

USFWS recognizes that there is uncertainty associated with setting aside water to ensure a sound ecological environment is sustained but disagrees that there is insufficient scientific information to make environmental flow recommendations or promulgate standards. The science of instream flows and freshwater inflows is replete with examples, studies, and approaches with the fundamentals of the science recognized world-wide. If the proposed standards for Trinity, San Jacinto, and Galveston Bay indeed have a high degree of biological uncertainty, the proposed standards should be more conservative (more protective) than those proposed by the Trinity BBEST and BBASC Regime reports.

The commission agrees that it is possible to make environmental flow recommendations based on data available. The commission followed its instructions in the TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team the stakeholder groups and other relevant factors, including commission staffs' water availability analyses, when drafting the adopted rules. No change has been made in response to this comment.

UNRMWA suggests that in the final version of the proposed rules, the executive director should clarify that site-specific studies should be recognized as a more accurate and better means of determining what is needed to determine a sound ecological environment. Site-specific studies should always be considered preferential to the desktop data that was evaluated in deriving the proposed rules. Indeed, in developing the flow regimes proposed in the rules, the science teams only considered historic gaged flow records, with very little input on other factors that may take into account a sound ecological environment at specific points.

The commission respectfully disagrees with this comment. TWC, §11.147(e-3) expressly states: "Notwithstanding Subsections (b) - (e), for the purpose of determining the environmental flow conditions necessary to maintain freshwater inflows to an

EXHIBIT 1

affected bay and estuary system, existing instream uses and water quality of a stream or river, or fish and wildlife habitats, the commission shall apply any applicable environmental flow standard, including any environmental flow set aside, adopted under §11.1471 instead of considering the factors specified by those subsections." Subsections (b) - (e) are the statutes regulating how the commission protected the environment prior to HB 3/SB 3. It is clear that the bill and TWC, §11.147(e-3), meant for the commission to place any environmental flow standards determined under TWC, §11.1471, in a permit for new water instead of using these other statutes and site-specific data. Under TWC, §11.1471(d), all new appropriations or increases in the storage, taking, or diversion of water issued after an environmental flow standard is adopted must contain the standard. The commission acknowledges that further data may need to be developed. However, HB 3/SB 3 contemplates that this new data and new studies will be considered through adaptive management.

In the proposal preamble for §298.15, the commission stated that it still retained its existing authority to place special conditions in permits to protect the environment. The intent of this statement was to clarify that the commission would use special conditions to implement the environmental flow standards for applications for new appropriations of water and applications to increase the amount of water to be taken stored or diverted after September 1, 2007. Additionally, the commission still has authority to use special conditions for those applications which are not for new appropriations or an increase in storage, taking, or diverting of water.

TWDB comments that the proposed rules may create uncertainty and result in unintended consequences by considering only short-term effects of the environmental flow standards (10-year view) with regard to the long-term regional water plans that develop water management strategies over a 50-year time frame. Water management strategies are recommended to meet needs in all decades over a 50-year period and must be based on expected water supply yields based on statute and rules. Evaluating these long-term future water supply amounts on short-term TCEQ flow requirements makes uncertain whether supplies from recommended water management strategies will actually be available and may result in significant changes to regional water plans each time the TCEQ 10-year flow requirement rule window shifts forward in time. TWDB requests that TCEQ consider evaluating the effects of the rules on longer term water supply strategies.

Specific strategies in the water plans change as a result of the planning process. The commission evaluated only those strategies for new appropriations of water that could reasonably be expected to be implemented before the environmental flow standards are reconsidered in accordance with the schedule for a particular basin and bay system. Future scenarios can be addressed through the adaptive management process. The rule was not modified in response to this comment.

TWDB comments that the rules are not clear regarding whether the associated flow requirements will all be captured within updated TCEQ WAMs, and if so, at what point in time these would be available for use by water planning groups. If these new requirements are not incorporated into working WAM models, it may be difficult and/or costly for regions to develop reliable estimates of water management strategy yields. TWDB requests that TCEQ consider making WAM models available to allow evaluating of the rules on water planning strategies.

Any environmental flow standards adopted under these rules will be represented in the commission's WAMs. These models will be available for download from the commission's Web site after the standards are adopted. No change has been made in response to this comment.

TWDB comments that the rules are not clear regarding how the flow standards may affect reuse applications or interbasin transfers(IBTs). TWDB requests that TCEQ consider adding language to clarify how flow standards might be applied to reuse applications and IBTs or associated amendments.

For those applications that are not new appropriations of water, the commission will continue to use its existing authority to implement TWC, §11.147(b) - (e), and the commission may include the adopted environmental flow standards in those permits to protect environmental uses. At the time of the adoption of this rule, the issue of how return flows should be treated in determining water availability is an issue in a contested case pending at SOAH. With respect to interbasin transfers of water, applicability of the adopted standards would be dependent upon whether the water to be transferred is a new appropriation of water. Interbasin transfers that are new appropriations of water are subject to the adopted standards. No change has been made in response to this comment.

TWDB comments that the rules are not clear as to whether the standards are to be applied in WAM modeling performed by TCEQ to evaluate the issuance of water rights alone or whether they are also to be applied for actual storage and diversion operations. If the rules and standards are intended to be used in actual operations, would actual reservoir storages and actual stream flows be used in determining trigger levels, or would WAM-modeled storage levels and flows be used? In applying the rules in both the WAM model and in actual applications, would flow pulses be identified using daily flows for monthly flows? TWDB requests that clarifying language be considered that addresses how the rules and standards would be applied in these cases.

Any environmental flow standards adopted under these rules will be represented in the TCEQ WAMs. In addition, these standards would be included as special conditions in water rights permits that are covered by this chapter. A water right would need to comply with these special conditions, which would be based on actual streamflow values included in the adopted rules. The rule was not modified in response to this comment.

LGRT comments that the proposed flow rates for the proposed regimes should not be considered the lowest instantaneous flows needed such that the executive director, in future amendments to the rules, would be precluded from lowering the proposed flow rates or removing some or all of the proposed pulse regimes. Moreover, when evaluating and imposing conditions in applications for water rights subject to the rules, LGRT comments that the executive director should not require applicants to monitor and adhere to all measuring points in the basin, but only the measuring point located closest to the diversion, or to a site-specific gage, should one exist. To support this position, a clarification in the preamble, or in the definitions section, should be included in the final adopted rules.

The commission agrees that the proposed flow rates should not be considered the lowest flows that would ever be needed. The science teams considered the best available science at the time these rules were developed. To the extent that additional information becomes available through monitoring and studies un-

EXHIBIT 1

dertaken under the workplan, the science team and stakeholders could consider that information in future deliberations and recommend different flow values for consideration during future rulemaking.

With respect to the measurement point that would be applicable to a water right, the commission responds that this depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. No change was made in response to these comments.

WW is concerned about the use of the model as the means of determining how to impose environmental flow standards in individual permits and thinks we may find, when we hear the technical comments from engineers and hydrologists, that perhaps the model was not designed for that purpose. And we will be adding more uncertainty to a mathematical concept that is consensus-based and has a lot of simplifying assumptions already built in. To that extent, reliance on the model may not be appropriate for making a determination regarding environmental flow standards in permits.

Water availability models are used to determine whether water is available for appropriation for new permit applications. At this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

WW would hate to see reliance on the model replace actual circumstances of individual permits, even in water rights permits without environmental flow standards. We come to realize that there is site-specific and application-specific information available. In imposing environmental flow standards, we need to take advantage of all the information we have and not ignore reality in the face of a mathematical or computer construct. It is important that we allow ourselves some flexibility in determining how we're going to impose environmental standards in individual permits.

The commission responds that TWC, §11.147(e-3), expressly states: "Notwithstanding Subsections (b) - (e), for the purpose of determining the environmental flow conditions necessary to maintain freshwater inflows to an affected bay and estuary system, existing instream uses and water quality of a stream or river, or fish and wildlife habitats, the commission shall apply any applicable environmental flow standard, including any environmental flow set aside, adopted under TWC, §11.1471, instead of considering the factors specified by those subsections." TWC, §11.147(b) - (e) are the statutes regulating how the commission protected the environment prior to HB 3/SB 3. It is clear that the bill and TWC, §11.147(e-3), meant for the commission to place any environmental flow standards determined under TWC, §11.1471, in a permit for new water instead of using these other statutes and site-specific data. Under TWC, §11.1471(d), all new appropriations or increases in the storage, taking, or diversion of water issued after an environmental flow standard is adopted must contain the standard. The commission acknowledges that further data may need to be developed. However, HB 3/SB 3 contemplates that this new data and new studies will be considered through adaptive management.

In the proposal preamble for §298.15, the commission stated that it still retained its existing authority to place special conditions in permits to protect the environment. The intent of this statement was to clarify that the commission would use special conditions to implement the environmental flow standards for applications for new appropriations of water and applications to increase the amount of water to be taken stored or diverted after September 1, 2007. Additionally, the commission still has authority to use special conditions for those applications which are not for new appropriations or an increase in storage, taking, or diverting of water.

At this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

WW is unsure exactly how the environmental flow standards are going to be applied when you look at the dates of September 1, 2007 and December 1, 2009; the difference in those two dates and how they are applied could make for some difficulty in applying stream standards.

The December 1, 2009 date is used solely for the purposes of water availability analyses for applications that are subject to this chapter. This priority date for the environmental flow standards will be used in water rights permitting in the water availability model runs for these applications. The September 1, 2007 date is the date after which the commission may reopen permits to adjust special conditions to protect the environment in accordance with the statute. No change has been made in response to this comment.

TWDB comments that the TCEQ has not proposed set-asides for the Trinity-San Jacinto and Sabine-Neches systems. TWDB requests that TCEQ consider adding language describing how set-asides would be determined and applied, particularly in WAM applications for the purpose of evaluating future water supply strategies. TWDB also requests clarification on whether set-asides would be considered in the future if the mechanisms to satisfy environmental flow standards consisting of water appropriated to downstream water rights holders, water of another state under an interstate compact, water appropriated to another but not used, and return flows change or are affected so as to no longer satisfy the standard.

If set-asides are recommended in the future, the method for determining and implementing those set-asides will be described in that future rulemaking process. No change has been made in response to this comment.

TWDB requests that the TCEQ provide language clarifying how standards would be applied at locations other than at designated measurement points.

The measurement point that would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. Individual permit applications are different; therefore, special conditions and measurement points may need to vary for those permits. No change has been made in response to this comment.

SJRA and NTMWD suggest that the executive director clarify in more detail how he will evaluate applications that are not subject to the rules. There are several types of applications that involve the conversion or addition of purposes of use, the movement of water throughout streams in a basin for subsequent diversion and use (i.e., bed and banks authorizations), or the addition of diversion points. These types of applications should not be subject to the rules, as they do not represent new appropriations of

EXHIBIT 1

water. It would be beneficial for the executive director to reiterate this fact and clarify in more detail the types of applications that are not subject to the rules and how he will evaluate those applications.

The commission believes that it is clear in the rulemaking that only new appropriations are covered by these rules. For those applications that are not new appropriations of water, the commission will continue to use its existing authority to implement TWC, §11.147(b) - (e), and the commission may include the adopted environmental flow standards in those permits to protect environmental uses if it finds that this would be appropriate. Concerning what would not be considered a new appropriation, the commission agrees that changes in use and changes in diversion points alone would not be covered. At the time of the adoption of this rule, the issue of how return flows should be treated in determining water availability is an issue in a contested case pending at SOAH. With respect to interbasin transfers of water, applicability of the adopted standards would be dependent upon whether the water to be transferred is a new appropriation of water. Interbasin transfers that are new appropriations of water are subject to the adopted standards. The standards would also not apply to portions of existing water rights that were not being amended to add a new appropriation of water, including an additional diversion point that will not seek an increase in the diversion amount. No change has been made in response to this comment.

TPWD comments that the overarching requirement in HB 3/SB 3 is that adopted environmental flow standards shall be "adequate to support a sound ecological environment, to the maximum extent reasonable considering other public interests and other relevant factors." (see TWC, §11.1471(a)(1)). From a reading of the preamble and draft rules, the criteria, studies, or analyses that TCEQ used to determine "maximum extent reasonable" is not clear. It is also not apparent if the determination was equivalent for the two basins included in the proposed rules. Since 1985, TCEQ has demonstrated an ability to balance multiple public and environmental needs in ascribing environmental flow conditions to water right permits. TCEQ should ensure that any balancing that results in a reduction of scientifically determined instream flow and freshwater inflow values is properly vetted and documented. An objective, consistent, transparent, and reliable balancing test is needed and should be detailed so that all stakeholders, including the general public, understand how the term is defined and applied. TPWD proposes that TCEQ add a rule that clearly identifies the factors it considers and how the agency makes its determination that a standard is adequate to support a sound ecological environment to the maximum extent reasonable.

The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors such as human and other competing needs for water, and comments on the proposed standards when developing the adopted standards. The commission considers each basin and bay system individually, so the factors considered in balancing can vary. At this time, the commission needs flexibility in developing the standards for individual basin and bay systems. Therefore, the commission is not including a rule limiting that flexibility. The rule was not modified in response to this comment.

TPWD is concerned that the proposed rule package does not describe the weight given to various sources of input in the rulemaking process. HB 3/SB 3 does not give special weight to the recommendations of an individual BBASC, majority BBASC group, or any other group (see TWC, §11.1471(b)). For example, without text to fully explain the TCEQ weighting process, it appears that the agency may have only considered the majority opinion of the stakeholder group in the Trinity-San Jacinto basin and excluded other available information and studies. This majority BBASC opinion called for a much weaker set of environmental flow standards than the majority BBEST opinion. Given that TCEQ staff's modeling of the draft rules shows an insignificant impact on the future water supplies evaluated, it would seem that the balancing by the TCEQ resulted in draft environmental flow standards that have no impact on human needs, but the balancing did not accommodate the best available science with regard to environmental needs.

The commission followed its instructions in the TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors, including commission staffs' water availability analyses, when drafting the adopted rules. In the Section by Section discussion for §298.225 and §298.280 in the preamble, the commission identifies which science team reports, stakeholder committee reports, and other information it relied upon in developing the adopted standards. Additionally, in the Section by Section discussion for §298.225 and §298.280, the commission discusses the balancing analysis it performed and identifies the Web site where the models used for the balancing analysis are available for download. No change has been made in response to this comment.

TPWD comments that the TCEQ has an independent duty to develop flow standards that meet the statutory requirements of TWC, §11.1471(a) and (c). In carrying out that duty, TCEQ must consider factors detailed in TWC, §11.1471(b), namely the basin and bay system geography, the Advisory Group schedule, the BBEST environmental flow analyses and recommended flow regime, the BBASC recommendations, Advisory Group comments, specific characteristics of the river and bay system, economic factors, human and other competing needs in the system, all reasonably available scientific information, including any scientific information provided by the SAC, and any other appropriate information. It is not clear how this full set of information was considered by the TCEQ in developing the proposed rules package. The methodology that TCEQ used to identify, evaluate, and analyze such information should be documented.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors, including commission staffs' water availability analyses, when drafting the adopted rules. In the Section by Section discussion for §298.225 and §298.280 in the preamble, the commission identifies which science team reports, stakeholder committee reports, and other information it relied upon in developing the adopted standards. Additionally, in the Section by Section discussion for §298.225 and §298.280, the commission discusses the balancing analysis it performed and identifies the Web site where the models used for the balancing analysis are available for download. No change has been made in response to this comment.

TPWD previously recommended, in an August 19, 2010 letter to the commission, that the TCEQ closely follow the technical guidance documents authored by the SAC regarding environmental flow regimes to construct environmental flow standards.

EXHIBIT 1

TPWD also recommends that environmental flow standards reflect the regime components used by the TIFP and endorsed in "The Science of Instream Flows, A Review of the Texas Instream Flow Program." For bays and estuaries, key components are inter- and intra-annual variation of freshwater inflow volumes necessary to maintain important estuarine habitats and biological communities which in some cases are represented by one or more indicator species. In particular, the BBESTs and the SAC are comprised of experts appointed for the express purpose of advising the state in establishing environmental flow standards. Because of the complex nature of the science of environmental flows, the TCEQ should clearly describe how it considered these documents and recommendations.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors, including commission staffs' water availability analyses, when drafting the adopted rules. The science teams' recommendations were to be based on the best available science, which could have included consideration of those documents. The factors considered by the commission are discussed in the adoption preamble for each basin and bay system. The commission notes that the freshwater inflow requirements contained in §298.225 were modified in response to other comments. The modifications are discussed further in the preamble for §298.225. The rule was not modified in response to this comment.

TPWD appreciates that TCEQ has included definitions in the draft rules to help to clarify some of the legal and technical terminology. However, in some instances the draft rule has created confusion by offering same-term definitions that have different meanings depending on basin or location. Definitions should be consistent regardless of basin. For example, as proposed, definitions in Subchapter A are to have statewide applicability yet definitions in Subchapters B and C may conflict with Subchapter A and are to control over Subchapter A. TPWD recommends that TCEQ develop a consistent set of terms with specific definitions. As needed, TCEQ should develop alternate terms or methods to describe characteristics or findings unique to a given basin or situation.

The commission notes that general definitions for these terms are provided in Subchapter A and agrees that they are necessary for this rule package. However, the commission does not want to limit the ability of future stakeholder and expert science groups to define these terms in their future, location-specific recommendations. No change has been made in response to this comment. However, with respect to which subchapter controls, the adopted rule was clarified in response to other comments. The clarifying language can be found in the adopted standards in §298.200 and §298.250.

One individual requests that the TCEQ allow for natural and adequate flows on the East Texas rivers. Considering drought levels as adequate is not acceptable. Healthy river ecosystems depend on a variety of water levels as found in nature. Putting our water resources and dependent biological systems at risk to provide water to other areas of the state which would operate in wasteful ways is against local environmental and economic interests. I do not want our natural resources depleted so that cities such as Dallas-Fort Worth can continue to water lawns and flush toilets with drinking water.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors, including commission staffs' water availability analyses, when drafting the adopted rules. No change has been made in response to this comment.

FNI supports the TCEQ's decisions to not establish environmental flow set asides and to apply pulse flow standards only to large-scale projects.

The commission acknowledges this comment.

FNI supports the TCEQ's approach to apply these criteria only to new appropriations of water as of December 1, 2009. The preamble implies that these rules will not apply to interbasin transfers of water for water rights with a priority date before December 1, 2009; however, the rules are silent on this issue. The regulations should include more definitive language stating that these criteria will NOT be applied to interbasin transfers of existing senior water rights. In considering the impact on Regional Water Plans, the TCEQ did not analyze the impact of applying these rules to interbasin transfers.

The commission notes that these environmental flow standards are applicable to permit applications for new appropriations issued after September 1, 2007. With respect to interbasin transfers of water issued after September 1, 2007, applicability of the adopted standards would be dependent upon whether the water to be transferred is a new appropriation of water. The rule was not modified in response to this comment.

FNI comments that in seasons with large and small pulse criteria, it is common for a pulse event to reach the small pulse peak flow trigger and continue rising, reaching the large pulse peak flow trigger several days later. FNI recommends that when: 1) the peak criteria for the larger pulse occurs before the duration or volume criteria for the smaller pulse has been met; and 2) a large pulse has not occurred in the season, that the pulse be classified as a large pulse with credit for the days and volume that occur prior to reaching the large pulse peak criteria. This prevents the water right holder from potentially losing credit for bypassed flow.

The commission considered all of the comments and alternate proposals submitted in response to the proposed rules. The commission removed the requirement for a large high flow pulse in the adopted rule. The changes are discussed in the adoption preamble in §298.275 and §298.280, and the changes can also be found in the adopted standards for those sections.

FNI comments that the rules are unclear about what happens if a pulse event meets either the duration or volume criteria and flows are still above the peak flow trigger. FNI recommends that flows drop below the peak flow trigger before defining a new pulse.

Once the applicable pulse criteria is met, a water right holder to whom these standards apply could begin diverting water in accordance with the subsistence or base flow criteria required by §298.225 or §298.280 for that month. The rule was not modified in response to this comment.

DWU comments that the term "set-asides" is used throughout Chapter 298 but is not defined.

The commission agrees with this comment and has added a definition for set-asides to §298.1.

DWU notes that there appear to be three definitions of "High flow pulses" within the proposed Chapter 298: §§298.1(7), 298.220(d), and 298.275(d). As BBESTs and BBASCs across the state submit environmental flow recommendations and TCEQ develops standards, there is a possibility of seven or

EXHIBIT 1

more definitions of "High flow pulses." With multiple definitions, each slightly different, interpreting the rules becomes confusing.

The commission notes that general definitions for these terms are provided in Subchapter A and agrees that they are necessary for this rule package. However, the commission does not want to limit the ability of future stakeholder and expert science groups to define these terms in their future, location-specific recommendations. The commission deferred to the definitions of these flow components used by the basin groups, and this is why the definitions are different in §298.220(d) and §298.275(d). No change has been made in response to this comment.

WW comments that none of the environmental flow standards for the Trinity and San Jacinto Rivers and Galveston Bay or the Neches and Sabine Rivers and Sabine Lake Bay were promulgated with an eye on their impact on water development or even pending water rights applications. The commission should make an effort to gain further knowledge regarding the practical application of these proposed rules on pending water rights applications before it finalizes the environmental flow standards. The experience regarding the practical application of these proposed rules should inform their revision and ultimate adoption.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors. In addition, commission staff performed a water availability analysis on the adopted standards to evaluate issues related to human and other competing needs for water when drafting the adopted rules. No change has been made in response to this comment.

Three individuals request the TCEQ to halt the transport of massive machinery through the Pacific Northwest to tar sands operations in Canada until a full federal environmental review and analysis is completed, including impacts on endangered wild salmon.

This rulemaking does not address federal environmental reviews and analysis. No change has been made in response to this comment.

One individual comments that if Texas wants to actually protect its vital river systems, then the standards used must be high. There are many demands on both the Trinity and San Jacinto Rivers/Galveston Bay, and at times the flow of these rivers would be reduced to a trickle. On part of the Trinity in north Texas, the Clear Fork, there is no water for the majority of the year. The only time there is water is during flash floods. That is not protection. Standards need to be increased massively in order to have any chance at maintaining a viable river system and protecting the animals and plants living in those areas. Life is all life, not just human life or human convenience. Without other living systems then humans die from their absence.

TWC, §11.1471, instructs the commission to consider numerous factors such as the recommendations provided by the science teams, the stakeholder groups and other relevant factors, including human and other competing needs, when drafting the adopted rules. No change has been made in response to this comment.

One individual comments that the work the TCEQ is doing to set the standards for flow allocations is important to your fellow Texans, even those that live far from the coast and city dwellers who aren't aware of how it affects them. This individual urges the TCEQ to go for the gold standard and make a difference for the future of our coast and hopes the TCEQ will consider strengthening the standards to provide for periodic flooding that's essential for protecting the flora and fauna of the bottomlands.

The commission has considered all comments on the rule proposal and adopted changes where appropriate. The commission acknowledges that overbank flows are a component of a flow regime for a sound ecological environment and has modified the Section by Section discussion of §298.1 in the preamble to reflect this acknowledgement. Overbank flows are a result of naturally occurring large rainfall events, which will likely continue to occur. Therefore, the commission is not including overbank flows as a component of the adopted standards. No change has been made in response to this comment.

Three individuals request that the TCEQ revise and strengthen the proposed standards.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups and other relevant factors, including commission staffs' water availability analyses, when drafting the adopted rules. No change has been made in response to this comment.

Chapter 298 Preamble General Comments

Environmental Stewardship, NWF, and NWFSCRC comment that the issue of the need to provide for continued overbank flows merits acknowledgement in the rules. The importance of overbank flows in protecting a sound ecological environment is explicitly acknowledged by the expert science teams and the SAC. Given the critical nature of those flows to the protection of a sound ecological environment, the rule preamble should explicitly acknowledge the importance of overbank flow protection as an issue for continued consideration in future revisions to the standards.

The commission acknowledges that overbank flows are a component of a flow regime for a sound ecological environment and has modified the Section by Section discussion of §298.1 in the preamble to reflect this acknowledgement. Overbank flows are a result of naturally occurring large rainfall events, which will likely continue to occur. Therefore, the commission is not including overbank flows as a component of the adopted standards. No change has been made in response to this comment.

One individual notes that the TCEQ states that although it provides definitions for the terms "base flow," "pulse or high flow pulse," and "subsistence flow," this does not mean in future recommendations that these terms will be used or defined in the same manner. This makes no sense and simply serves to confuse the public and allows the TCEQ so much flexibility that no one knows how it will develop analyses, methods, or make decisions. The TCEQ is supposed to educate and clearly tell the public what it does and why it does what it does and not confuse the public. The public must know how the TCEQ will define and implement these terms.

The commission notes that general definitions for "base flow," "pulse or high flow pulse," and "subsistence flow" are provided in §298.1 and agrees that they are necessary for this rule package. However, the commission does not want to limit the ability of future stakeholder and expert science groups to define these terms in their future, location-specific recommendations. No change has been made in response to these comments.

TPWD comments that the preamble does not adequately explain the TCEQ's characterization of set-asides as a tool to estab-

EXHIBIT 1

lish a "high-level" of protection. It is not clear how a set-aside that contributes to meeting an environmental flow standard elevates flow protection to a perceived unacceptable "high level." TPWD agrees that a set-aside provides perhaps a more reliable source to meet flow standards than other water sources. TPWD believes that set-asides provide for a more effective and realistic protection of the environment that assumptions about environmental flow protection from underutilization of existing water rights, return flows, and flows passed to meet senior water rights. The set-aside was meant to provide reliable environmental flow conditions that would be unaffected by later appropriations, except to the extent that such set-asides might be altered in future rulemaking processes that consider additional studies and technical information. TCEQ's modeling has demonstrated that under the full utilization of existing water rights, the impacts of the proposed standards on selected future water projects is insignificant. Thus, the proposed standards could be established as set-asides and have a similarly insignificant impact on "human water needs." The preamble notes a number of factors that can contribute to the satisfaction of permit special conditions, but, by implication, not to set-asides. Of these factors, all either also apply to set-asides or do not exist in WAM Run 3. Thus set-asides could be established, instead of permit conditions, with no greater impact on water for human needs.

As the commission notes in the preamble for §298.15, due to water availability issues in these basins, special conditions placed in a permit may be a more effective method to protect flows in the stream when new appropriations of water are granted. This is because if special conditions are used, there are other sources of water in a stream that could be used to meet environmental flow requirements in a permit; for example, water appropriated to downstream water right holders, water appropriated to another but not used, or return flows. Additionally, set-asides require a water availability determination, and these sources would not be used to determine water availability because they would not be considered to be unappropriated water. The commission also notes that although stakeholder groups could make recommendations regarding set-asides, neither of the stakeholder groups in these basins recommended an amount of water to be set aside. No change has been made in response to these comments.

One individual notes that the TCEQ states "The commission is not proposing to specify the exact terms and conditions of special conditions that it will impose to protect environmental flow standards." This is a great concern because the flexibility that this proposal allows the TCEQ means that the public will be unable to understand, in any realistic time frame, what the TCEQ's basis is for the methodology it uses to compute environmental flows for streams, rivers, and bays and estuaries. No certainty or stability is provided by the TCEQ with this ad hoc, case-by-case method, and thus this will allow for contradictory results that are not consistent.

Individual permit applications are different; therefore, special conditions may need to vary for those permits. Certainty and stability are provided by the placement of specific numerical values included in these rules. The fact that the special conditions that will be used to protect the standards may vary does not change the specific flow standards themselves. The methodology used to compute these standards is discussed in the preamble. No change has been made in response to this comment.

UNRMWA, LGRT, SJRA, and NTMWD expressed concern about how TCEQ will implement the proposed rules. Further, LGRT, SJRA, and NTMWD request that TCEQ develop some form of implementation procedures for public review and comment once these rules are adopted.

The commission will implement these standards in each permit granted for a new appropriation of water. The commission cannot change the standards themselves but believes that at this point in the process the commission should examine permits as they come in to determine how to implement the standards in different permits. More detail may be added to the rules or as guidance at a later time. Concerning adjustments to permit conditions, TWC, §11.147(e-1)(1), provides that the commission may not adjust permit conditions "by more than 12.5%." No change has been made in response to these comments.

One individual notes that the TCEQ states in the preamble for §298.25(j) that "the commission proposes that more reliable water, proposed to be defined as water where the total volume is available at least 75% of the years, is entitled to full credit." This individual opposes this definition. A stream, river, bay, and estuary cannot survive without water for 25% of the years. These ecological entities need water all of the time! The TCEQ needs to explain how it addresses the environmental impacts to streams, river, and bays and estuaries if they only get water 75% of the water.

Section 298.25(j) is related to voluntary contributions to the Texas Water Trust and voluntary amendments to existing water rights to change or add a use for instream flows dedicated to environmental needs or bay and estuary inflows. The intent of this provision is to ensure that water dedicated to the environment that would receive full credit for the dedicated amount, through these methods, is available often enough to reliably provide protection to the environment. More reliable water, defined as water where the total volume is available in at least 75% of the years, is entitled to full credit. Water that is available in less than 75% of the years is entitled to a 50% credit. These availability amounts do not represent how much water is physically present in the stream. They are intended to represent a mathematical calculation of the amount of the credit. No change has been made in response to these comments.

UNRMWA, SJRA, and NTMWD note that there needs to be some express protocol for addressing the accuracy of flow recording devices. SJRA and NTMWD request that the TCEQ acknowledge an accuracy of 95% for flow devices given normal variations in flow gage accuracies and other factors and the proposed gage locations in Chapter 298, Subchapters B and C. SJRA and NTMWD request the TCEQ to acknowledge that when the proposed flow regimes have been met at 95% of the amount required, such regimes are considered fulfilled for purposes of allowing diversions pursuant to a water right.

The commission acknowledges measurement devices may have varying degrees of accuracy. However, USGS gages are the best available tool to determine compliance with the standards. The rule has specific values for the standards, which must be fully met at specified locations. No change has been made in response to these comments.

BRA comments that since flow standards proposed may vary by month and not season, such as those in Chapter 298, Subchapter B, the sentence that states that "Once the flow at the applicable measurement point is above the base flow standard for the season, then the water right holder may store or divert water

EXHIBIT 1

according to its permit as long as the flow at the measurement point does not fall below the applicable base flow standard" may need to be reworded to accommodate monthly standards.

The commission respectfully disagrees with this interpretation of the standards. The recommendations for these bay and basins systems adopt seasonal requirements. The seasons are defined in the rule for each bay and basin system. In §298.220, in response to other comments, the seasons will be included in the tables in the adopted rule, which may help clarify this issue. No change has been made in response to this comment.

One individual states that the TCEQ is inconsistent in whose recommendations it chose to include in the proposed rule. On the one hand the TCEQ says that the "majority of the stakeholders" recommends something but does not stay consistent and say the same thing about the majority of the science team, which also recommended something. Instead, the TCEQ breaks the science team into two groups and says that because the minority science team supports what the majority of the stakeholders support that the minority science team recommendations are supported by TCEQ. Exactly what method was used to dismantle different recommendations and then put them together? The TCEQ needs to explain how it addresses the methodology used to determine what the environmental flows are in a scientific manner.

Because the commission did not receive a consensus recommendation from this basin, it had to consider what the science team and stakeholders recommended and come up with a standard. The commission explained exactly how it considered the different recommendations in the preamble for §298.225. The commission also considered staff's water quality and water availability analyses on the proposed standards, which indicated no significant water quality concerns from the adopted standard. No change has been made in response to these comments. The commission notes that the specific numerical values in §298.225 that the commenter addresses have been modified in response to other comments.

Espey and LGRT comment that, as stated in the rule proposal, the TCEQ did not look at every possible future water use scenario, but limited the selection of scenarios to those that could "reasonably be expected to be implemented before the environmental flow standards are reconsidered, in accordance with the schedule in §298.240." Further, the TCEQ "did not look at longer term water use scenarios, i.e. 50 years in the future, because there will be another opportunity to look at those long term scenarios through HB 3/SB 3's adaptive management provisions." The State and Regional Water Planning process, implemented via SB 1, is charged to evaluate water supply strategies over a 50-year time period and must further consider applicable environmental flow standards within those evaluations. It appears no effort has been made by the TCEQ to address this discrepancy. The assertion of no impact may not be justified given this consideration. Further, it is unlikely that the evaluation of any single strategy in a basin is sufficient, considering the complexity and variety of strategies within Regional Water Planning Groups' approaches. It is proposed that those recommended strategies identified in the most recent Regional Water Plans be utilized in the evaluation of potential impacts from the proposed standards.

Specific strategies in the water plans change as a result of the planning process. The commission selected strategies for new appropriations of water that could reasonably be expected to be implemented before the environmental flow standards are reconsidered in accordance with the schedule for a particular basin and bay system. Future scenarios can be addressed through the adaptive management process. No change has been made in response to this comment.

One individual notes that the TCEQ states "For the Trinity River Basin Scenario . . . produces an annual availability of 83%" and would like to know what the percent error is of the methodologies used to calculate the annual availability; how streams, rivers, and bays and estuaries survive if 17% of the time the water needed for life is not available; what the TCEQ means when it states "Reliability with application of either the bay and estuary freshwater inflow standard or no environmental flow requirements was comparable"; how comparable is defined; and how close models, methodologies, analyses, or scenarios have to be to be called "comparable." The TCEQ does not provide enough information about these issues.

The models used by the commission are based on historic gage flows. While the gages may have varying degrees of accuracy, the gages remain the best tool available for measuring stream flows which are the basis for the water availability models. Concerning the annual availability numbers, these numbers represent when diversions could occur under the scenario after the environmental flow standard has been met. An annual availability of 83% is the amount of time water is available for the scenario after the flow standard has already been met. The 17% represents the amount of time the scenario could not divert all of its water, although it could divert some water. No change has been made in response to these comments. However, the commission notes that in response to comments received on the proposed standards in §298.225, those standards were modified. Commission staff performed a water availability analysis on the adopted standards for these basins and the results of that analysis can be found in the adoption preamble under §298.225.

Espey and LGRT note that the TCEQ has elected to model the proposed environmental flow standards using a monthly WAM application, which focuses on volumetric flows in a monthly context. However, the rules specify that permittees would be subject to the application of a trigger amount (presumably based on a daily average flow rate at the measuring point) identified as a pulse flow, then passing this flow until either the applicable volume standard is achieved or the applicable duration criterion has been met. There are several potential disconnects between how the standards are implemented in the WAM versus how they would ultimately be applied operationally as proposed in the rules. This implementation methodology should be developed, tested, standardized, and promulgated prior to applying it to any water right subject to these proposed rules. The SAC guidance document Consideration of Methods for Evaluating Interrelationships Between Recommended SB-3 Environmental Flow Regimes and Proposed Water Supply Projects recognizes that the use of a daily flow analytic procedure, in conjunction with a WAM analysis, produces more accurate representations of the effects of environmental flow requirements. It is suggested that both techniques be employed to assess the potential impacts of the proposed environmental flow standards. Espey and LGRT also comment that the WAM has not been thoroughly vetted as a tool for evaluating the potential effects of such environmental flow criteria. The assumption of very precise daily flow characteristics being indicative of future distributions of flows (both temporally and spatially) has not been tested. While tests have been made to evaluate if given months that are found to achieve the monthly volumetric flow criteria yield the recommended pulse characteristics, such tests would be based on the assumption that the historic daily flow distribution for a

EXHIBIT 1

given monthly volume would be the same. Such an important assumption has not been tested. Thus, while the WAM might be the only tool available at present, conclusions drawn from its application might be ill-informed and potentially misleading.

The commission respectfully disagrees with this comment. The SAC guidance document referenced in the comment notes that the monthly WAM is "recommended as an acceptable approach for performing these types of e-flow analyses based on the results from the test cases examined herein, and it is recognized as the superior method with regard to effectively representing both water availability, consistent with the way TCEQ would evaluate a permit application, and e-flow requirements in the same analysis." The commission used the TCEQ WAM, which is the model that it would apply to any permit application submitted for a new appropriation of water. Since this is the model that would be used for any application before the commission to which these standards apply, the commission used this model to determine the impacts of the proposed standards on future water use scenarios. No change has been made in response to these comments.

Espey and LGRT comment that the WAM evaluations performed by the TCEQ to assess the potential impacts to regional water plan strategies in the Trinity River basin only consider the effects of proposed instream flow criteria and do not consider the ramifications from the proposed estuary standards. The single strategy evaluated by the TCEQ exists in the northern area of the watershed, outside of the 200-river-mile boundary beyond which the estuarine flow criteria do not apply. Although no evaluation has been made into the potential effects of the Trinity estuarine criteria on potential strategies in the Trinity River Basin, the assertion is made that the criteria yield no impact. The reverse is true for the WAM evaluation of the San Jacinto River Basin, wherein the WAM evaluations performed by the TCEQ employ the proposed estuarine standards, yet no analysis of the potential effects of the instream criteria was performed. It is suggested that an analysis be performed on the potential effects of the estuarine flow criteria in the Trinity River Basin as well as the potential effects of the instream flow criteria in the San Jacinto River Basin.

The commission selected scenarios based on new appropriations of water. Other scenarios may be addressed in the adaptive management process. With respect to the 200-river-mile boundary, the commission has determined that under TWC, §11.147(e-3), the 200-river-mile limit does not apply to environmental flow standards for bays and estuaries unless the science team or stakeholders submit this recommendation to TCEQ for review during the environmental flows process. No change has been made in response to these comments. The commission notes that in response to other comments, unrelated to this comment, the commission modified §298.225(a) and additional analyses were performed in support of that modification.

Espey and LGRT comment that the methods by which the estuarine criteria have been employed to evaluate their potential effects do not appear to ascribe to the standards proposed in the rule. Three estuarine criteria have been specified in the proposed standards; however, only the single, minimum criterion has been evaluated. The potential impact of all three criteria remains unclear and should be investigated prior to any assertion of the potential impact of the proposed standards. Espey and LGRT also comment that although the proposed standards are annual targets (with associated frequencies), an arbitrary monthly distribution is applied. The application of a monthly distribution directly conflicts with the annual standards identified in the proposed rule and recommended by the majority of the Trinity-San Jacinto Stakeholder Committee.

The water availability model for the proposed rule did include a minimum flow value using the monthly distribution from the Regional Water Plan. However, all of the criteria were evaluated in determining the effects of the proposed rule on the scenario. The commission has modified the preamble for §298.225 to clarify the analysis. In response to other comments, the commission modified §298.225(a) and performed additional analyses in support of that modification. These modifications are explained in the adoption preamble in Subchapter B, §298.225.

Espey and LGRT comment that the proposed estuarine standards disaggregate the recommendations on total inflows to Galveston Bay from the majority of the Trinity-San Jacinto Stakeholder group into the system's component watersheds (e.g., the Trinity and San Jacinto), using (assumedly) average historic annual flow proportions as a basis. However, the same overall watershed frequencies are ascribed in the standard to each watershed's proportion. It is unclear if the frequencies recommended for the total watershed remain valid when disaggregated into component watersheds using a long-term average. Another distribution is made to disaggregate flows from the San Jacinto River from other flows in the basin contributing to Galveston Bay. The basis for this disaggregation should be documented.

The majority stakeholder recommendation for this basin and bay system included total amounts for Galveston Bay and did not disaggregate the flows by river basin. Water rights are permitted by river basin. Therefore, the commission disaggregated the flows to reflect this. The commission used the average historic annual flow proportions as the basis for the disaggregation. No change has been made in response to these comments. In response to other comments the commission modified §298.225(a). The modification is explained in the adoption preamble for Subchapter B, §298.225.

WW thinks the impact of these proposed rules is underestimated in terms of its impact on the development of water supplies and that it will be important to the TCEQ as it looks at individual applications to take into account the technical information received in the form of comments, but also the technical information that is available in individual applications, so that the TCEQ can ascertain how these individual circumstances should impact contributions to environmental flows.

The commission reviews each application in accordance with the current statutes and rules. Although the commission does consider all technical information submitted with an application, HB 3/SB 3 does not allow it to change the flow standards in the adopted rules outside of the adaptive management process. No change has been made in response to this comment.

UNRMWA, SJRA, LGRT, and NTMWD comment that it is unclear why the TCEQ limited its evaluation of the proposed rules to one proposed project in each basin under consideration in Chapter 298, Subchapters B and C. The regional water planning process includes all proposed water management strategies, per decade, and the TCEQ should consider the impact of the rules on these projects in more detail. Existing water availability models that include approved water management strategies should be carefully considered by the TCEQ as it evaluates the impact of the proposed rules on future projects. SJRA and NTMWD comment that the TCEQ's analysis on impacts is understated in the preamble in part because the TCEQ did not consider the im-

EXHIBIT 1

pacts to firm yield and in part because the TCEQ did not fully evaluate all water management strategies. SJRA and NTMWD request the TCEQ to further consider these impacts or to explain in detail why the single strategy reviewed for the Trinity River Basin is an appropriate surrogate for every other strategy proposed for the Basin. LGRT notes that with regard to §298.225 and §298.280, only a handful of water management strategies were evaluated by the TCEQ when determining the impacts of the rules on said strategies. LGRT comments that this evaluation appears to only be related to the reliability of diversions, not to the firm yield of projects. "Firm yield" is the hydrological foundation for most municipal and industrial water rights, and the TCEQ should give more consideration to the impact of the proposed rules on the firm yield of the projects it evaluated. LGRT respectfully requests the TCEQ revise its assessment of the impacts to recommended water management strategies adopted in the approved Regional and State Water Plans to address the impacts to all recommended water management strategies in the Trinity and San Jacinto River Basins, and assess such impacts on a firm yield basis.

The commission understands that specific strategies in the water plans change as a result of the planning process. The commission selected strategies for new appropriations of water that could reasonably be expected to be implemented before the environmental flow standards are reconsidered under adaptive management in accordance with the schedule for a particular basin and bay system. The strategies in the water plan change from time to time and not all of the recommended strategies are appropriate for this type of analysis; for example, reuse of return flows, or modification of a diversion point. Future scenarios can be addressed through the adaptive management process. No change has been made in response to these comments.

NWF believes that a realistic consideration of the potential impacts of the flow regime on potential future water supplies indicates that in fact that impact is very reasonable. It's not out of proportion to what's being protected or out of proportion to the ability to develop new water supplies in those basins.

The commission acknowledges this comment.

NWFSCRC supports the basic approach used by commission staff in assessing potential impacts of proposed environmental flow standards on public interests. Recognizing that HB 3/SB 3 establishes a process for periodic adjustments of environmental flow standards, pursuant to TWC, §11.1471(f) that can occur at least once every 10 years, the TCEQ determined that water supply projects likely to be seriously considered for implementation during that same approximate time frame are the most appropriate for use in balancing public interest impacts. Many water supply projects that are talked about as long-term options are eventually dropped or modified for a variety of reasons. By basing evaluations of potential water project impacts on a time frame that approximately matches the revision schedule for environmental flow standards, the TCEQ will help to provide a reasonable balancing of all interests.

The commission acknowledges this comment.

One individual notes that the TCEQ states "The commission is not proposing to set aside any un-appropriated water to protect the proposed environmental flow standards . . . In theory, some water might be able to be set aside for high flow pulses . . . environmental flow standards may be adequately protected by special conditions in water rights permits or amendments . . . Special conditions to protect environmental flows may allow water permitted . . . " and comments that this type of explanation is not comforting and puts the public in the position of not knowing if water is or is not available and if it will or will not be provided for environmental flows. The TCEQ is supposed to know if un-appropriated water is available in each river basin. Why is the TCEQ unaware of whether un-appropriated water is available? Why is the TCEQ unaware of whether it will set aside un-appropriated water?

The commission does know what basins have water availability issues. As the commission notes in the preamble, due to water availability issues in these basins, special conditions placed in a permit may be a more effective method to protect flows in the stream when new appropriations of water are granted. This is because if special conditions are used there are other sources of water in a stream that could be used to meet environmental flow requirements in a permit; for example, water appropriated to downstream water right holders, water appropriated to another but not used, or return flows. Additionally, set-asides require a water availability determination, and these sources would not be used to determine water availability because they would not be considered to be unappropriated water. The commission also notes that although stakeholder groups could make recommendations regarding set-asides, neither of the stakeholder groups in these basins recommended an amount of water to be set aside. No changes were made in response to these comments.

OPIC is concerned the rule proposal does not meet legislative intent to use environmental set-asides as a tool to meet environmental flows. The rule proposal declines to establish set-asides in either Subchapters B or C. The proposal justifies this decision for two reasons: 1) a preference for special conditions because they allow water use for dual purpose; and 2) unappropriated water is unavailable. Although OPIC understands the commission's preference for the flexibility provided by special conditions, this justification is not one allowed by the legislature in TWC, §11.1471(a)(2). The "human water needs" limitation on set-asides refers to the appropriate amount of the set-aside, not whether it is appropriate to establish them at all. In essence, by stating that special conditions in general better balance human water needs than set-asides, the commission is setting a precedent that there are no circumstances where it is reasonable to establish them. OPIC remarks that this approach is particularly troubling because the two basins being considered are the two most easterly and the most likely to have water available for appropriation. The commission's current approach does not establish set-asides to satisfy the environmental flow standards "to the maximum extent reasonable" as required by the statute. OPIC is also concerned with the commission's conclusion that no unappropriated water is available for set-asides. The rule proposal acknowledges that some water might be available to be set aside for high flow pulses. In addition, it appears from the science committee reports that some level of low reliability unappropriated water may be available in each basin. OPIC comments that to meet the legislative mandate, these waters should be set aside. Environmental Stewardship and NWFSCRC are concerned that the TCEQ has not proposed to adopt any set asides for protection of environmental flows. The TCEQ is directed by statute to "establish an amount of unappropriated water, if available, to be set aside to satisfy the environmental flow standards to the maximum extent reasonable when considering human water needs" (see TWC, §11.1471(a)(2)). Although the challenge is complex, the TCEQ's failure to set aside water for environmental flow protection purposes has not been adequately justified. Environmental Stewardship and NWFSCRC comment that although water

EXHIBIT 1

may not be available in the Trinity or San Jacinto Rivers on a reliable basis to help satisfy subsistence and base flows, some water likely is available to be set aside to help satisfy high flow pulses and freshwater inflows to Galveston Bay. The contention that no water is available in the Sabine and Neches basins to protect subsistence and base flows is more questionable. Unappropriated flow is available that could be set aside to help satisfy high flow pulses and freshwater inflows to Sabine Lake. Environmental Stewardship and NWFSCRC further comment that if the TCEQ does not establish environmental flow set asides at this time, it will be critical for the TCEQ to acknowledge and respect the availability determinations noted in the proposed rules in future water rights permitting decisions in order to retain and protect its ability to meaningfully revisit the issue of establishing set asides during the first revision process for these standards. USFWS notes that the TCEQ states in the preamble that there is no unappropriated water available in the basins for subsistence and base flows and that no set-aside for the environment can be made. The premise that the TCEQ will resolve environmental flow requirements in future water right permits given that the basin is fully appropriated is inconsistent with the intent of the legislation. While there may not be water available during the drought of record, there is available water during non-drought periods for the environment as well as future water right permits. USFWS states that the 12.5% ceiling would be restrictive in addressing any needs identified by future studies. If the water is fully appropriated, it is not clear how the basin can be defined as a sound ecological environment. Return flows in the Trinity Basin have significantly increased base flow conditions over time. USFWS comments that while the basin may be fully appropriated during the drought of record, using this as a rationale to avoid setting aside environmental flows is not supportable given that, if there is water to issue new water right permits, then there is sufficient water to set aside environmental flows. USFWS recommends that the TCEQ re-evaluate its assessment that there is no available water for a set aside.

As the commission notes in the preamble for §298.225, due to water availability issues in these basins, special conditions placed in a permit may be a more effective method to protect flows in the stream when new appropriations of water are granted. This is because if special conditions are used there are other sources of water in a stream that could be used to meet environmental flow requirements in a permit; for example, water appropriated to downstream water right holders, water appropriated to another but not used, or return flows. Additionally, set-asides require a water availability determination, and these sources would not be used to determine water availability because they would not be considered to be unappropriated water. The commission also notes that although stakeholder groups could make recommendations regarding set-asides, neither of the stakeholder groups in these basins recommended an amount of water to be set-aside. No change was made in response to these comments.

Sierra Club-LS comments that the original concept of HB 3/SB 3 was that at least for those bay/basin areas where you had unappropriated water in sufficient quantities that the agency might be able to set aside or reserve a certain amount of water to meet the environmental flow needs in that particular area. Now, the initial indication from the first two basins is that there is not enough water necessary to do set-asides. If indeed that is the case, then for all practical purposes, except when permits come in for amendment, environmental flow standards will have to be met through voluntary options. This might mean, for example, purchase or lease of existing water rights up to a certain level to be able to meet the standards. That actually provides a great deal of latitude. Because obviously, if there is not enough water to set aside for environmental flow purposes, there also isn't enough water to be able to appropriate for additional water rights permits. If this is indeed the case, don't set the standards so low that the targets and goals for achieving environmental flows don't really meet the requirements of the environment. If voluntary options are going to be the primary way of achieving environmental flows in the first place, then please set the standards as protective as they need to be and provide the targets and goals that are needed to make sure that these rules will actually protect the habitat and create or maintain a sound ecological environment.

With regard to the specific numerical values in §298.225 of the adopted rule, the commission followed its instructions in the TWC to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. Water availability determinations are done on an application specific basis. Whether or not water would be available for a new appropriation depends on the fact situation for those applications. The commission also notes that although stakeholder groups could make recommendations regarding set-asides, neither of the stakeholder groups in these basins recommended an amount of water to be set aside. No changes were made in response to these comments.

TPWD notes that in §298.275 of the preamble, the text states "If the flow is above the subsistence flow standard but below the dry base flow standard, then the water right holder may divert or store water down to the subsistence flow." This statement is only correct if the hydrologic condition is dry; it is incorrect during average and wet conditions. TWPD suggests inserting "During dry hydrologic conditions," before the above-referenced sentence.

In response to other comments, adopted §298.275 has been modified to delete hydrologic conditions and modify the implementation of the flow components. The changes are discussed in the adoption preamble for §298.275 and §298.280, and the changes can be found in the adopted standards for those sections.

UNRMWA comments that the TCEQ did not evaluate the firm yield of a run-of-river diversion project with off-channel storage similar to that recommended to meet projected needs in the 2011 Region C Water Plan. Hence, the TCEQ has substantially underestimated the potential impacts of environmental flow constraints on a project of significant interest to UNRMWA. UNRMWA has completed technical analyses of such a project, and when firm yield is appropriately considered, the percentage losses in yield are radically greater than those reported by the TCEQ.

The commission responds that it used information available from the Regional Water Plan, and there was not enough information available to analyze this scenario with the specificity requested by the commenter. The commission did not intend for the analysis conducted to address the issue of balancing human and other competing needs for water in the basin and bay system to be a finding that water was available for a specific project. No changes were made in response to this comment. The commission notes that §298.280 was changed in response to other comments and the new analysis is discussed in the adoption preamble for subsection C, §298.280.

Public Benefits and Costs

EXHIBIT 1

TRA notes that the findings of the public benefit and costs analysis found, in part, the following: "Overall, because the proposed standards are expected to function similarly to current streamflow restrictions for applications, the proposed standards are not expected to have significant fiscal implications . . . " This finding is likely inaccurate if the impacts upon water planning are considered. Specifically, the TCEQ has evaluated projects that are likely to be implemented in the short term, while the SB 1 water planning process works with a 50-year horizon. Because the water planning process must consider all relevant rules and regulations, it is very likely that numerous long-term projects, such as importing water across basin divides or developing new reservoirs - strategies that are paramount to meeting anticipated demands - will be made unviable. This would result in large water deficits with significant economic impacts. TRA therefore urges the TCEQ to recognize the full measure of unintended consequences of environmental flow standards on the legislatively-mandated water planning process. ANRA and FNI comment that it appears that the cost/benefit analysis for the public may not consider the potential impacts to future water supplies. It is unclear as to whether the proposed standards on new water rights will act similar to existing practice. Should a water supplier need to develop additional supplies, this could have significant fiscal impacts on the public.

The commission responds that applications for new appropriations of water currently receive flow restrictions based on their location and facts provided in the application. Similarly, an application for a new appropriation of water under these rules will receive streamflow restrictions as provided by the adopted rules. The primary difference between streamflow restrictions assigned under the existing desktop methodology and streamflow restrictions assigned under the adopted rule is how the flows for the environment are distributed throughout the year. As discussed in the preamble for §298.225 and §298.280, application of the adopted flow standards to the water use scenarios had very little impact on water availability. Because streamflow restrictions currently applied to new appropriations of water under existing practice and streamflow restrictions under the proposed standards are expected to function similarly, the proposed standards are not expected to have significant fiscal implications. Additionally, under HB 3/SB 3's adaptive management provisions, the stakeholders will have future opportunities to re-evaluate the issue of balancing human and other competing needs for water in the bay and basin systems. The commission also notes that the fiscal note in the rule proposal preamble is limited by statute to a five-year outlook.

Subchapter A: General Provisions

§298.1, Definitions

TPWD comments that the definitions for "Base flow," "Pulse or high flow pulse," and "Subsistence flow" in §298.1(1), (7), and (8) should be consistent for all basins and all purposes. It is not clear why a different definition or standard for an equivalent flow regime component would vary basin by basin. In general, the terms are used extensively and with a common meaning in instream flow science where each of the flow regime components describe the same portion of the hydrograph and perform the same ecological function regardless of basin or location. TPWD recommends that the same definitions used in the TIFP, where applicable, be used in the HB 3/SB 3 rules. Of particular note is the omission from the definition for subsistence flow that characterizes these extreme low flows events as naturally occurring and infrequent and providing habitat suitable not only for survival but for recolonization. The differences in the definitions may be subtle, but they are important.

The commission notes that general definitions for "Base flow," "Pulse or high flow pulse," and "Subsistence flow" are provided in §298.1. However, the commission does not want to limit the ability of future stakeholder and expert science groups to define these terms in their future, location specific recommendations. With respect to the definition of "Subsistence flows," extreme low-flow events can be naturally occurring. However, low flows in a stream can also result from other factors such as lawful diversions authorized by individual water rights. Therefore, the definition of "Subsistence flows" in §298.1 was not modified to reflect that aspect of the comment. The commission does agree, however, that subsistence flows provide habitat not only for survival but for recolonization, and the definition of "Subsistence flows" in §298.1 was modified in response to that portion of the comment. The adopted definition is in §298.1(10).

LGRT concurs with the proposal that including definitions for "Base flow," "Pulse or high flow pulse," and "Subsistence flow" in §298.1(1), (7), and (8) does not imply that all future recommendations for environmental flows must use these precise components as defined.

The commission agrees with this comment.

LGRT comments that the term "average" is used in the definition of "Base flow" in §298.1(1) and would like to know whether "subsistence flow" is instantaneous or also based on some average.

The commission responds that the definition of "Base flow" in adopted §298.1(2) refers to that range of flows which occur in the absence of significant rainfall events. Therefore, they are neither the highest nor the lowest flows. In this case, the word average is a descriptor and not a mathematical calculation. "Subsistence flows" are instantaneous flow values unless future bay and basin groups define them otherwise for their respective basins. The rule was not modified in response to this comment.

TPWD comments that the "Environmental flow regime" definition in proposed §298.1(2) should track the statute verbatim; the qualifying clauses in the statute are necessary for comprehension and remove any grounds for inconsistency between the rule and the statute. There is a risk that simplifying or paraphrasing the definition will create uncertainty and ambiguity.

The commission agrees with this comment. The commission modified the definition of "Environmental flow regime" in adopted §298.1(3) to track TWC, §11.002(17) in response to this comment.

TPWD comments that it is unclear why definitions for "Lower Rio Grande" and "Middle Rio Grande" (§298.1(4) and (6)) are needed in Subchapter A rather than in a later subchapter that specifically addresses environmental flows for the Rio Grande. The inclusion of definitions §298.1(4) and (6) in Subchapter A seems inconsistent with the manner in which true basin-specific definitions are given in Subchapters B and C of the draft rules. It is also unclear why the definitions only include the main stem of the river. If the Texas portion of the Rio Grande Basin is to be segmented for purposes of HB 3/ SB 3 rulemaking, the entirety of the watersheds for each segment should be included.

The commission responds that the definitions for "Lower Rio Grande" and "Middle Rio Grande" (adopted §298.1(5) and (7)) are included in Subchapter A, General Provisions because this basin will be considered in future rulemaking. However, the commission agrees that the definitions for "Lower Rio Grande" and

EXHIBIT 1

"Middle Rio Grande" should be modified and has modified the definitions to include the tributaries in Texas in response to this comment. If the definitions for "Lower Rio Grande" and "Middle Rio Grande" in §298.1 need further modification, that modification can be considered during the future rulemaking for the Rio Grande.

LGRT comments that the term "critical drought" used in the definition of "subsistence flow" in §298.1(8) needs clarification. What indicator, or set of indicators, will be used to define a critical drought? And how will the executive director implement this definition when parts of basins are in critical drought yet others are not?

The definition in adopted §298.1(10) for "Subsistence flow" is based on the definition used by the TIFP. "Critical drought" merely refers to those times when flows in the river are very low and subsistence conditions would be applicable. The specific flows that are applicable to a particular water use permit could vary based on the applicable measurement point. Therefore, it is possible that different water use permits in different parts of the basin could have different flow conditions. The rule was not modified in response to this comment.

TPWD comments that the definitions in §298.1(10) and (11) need refinement. When the definitions are read in concert, persons with a legal right to use state water that are exempt from permitting such as domestic, livestock, or wildlife users are not defined as water right holders. Though exempt from permitting requirements, these water users maintain a valid legal right to surface water use. The definition of "Water right holder" in §298.1(10) should include exempt domestic and livestock and wildlife users as they are a class of water right holders that are entitled to protection from junior appropriators. Their water use should be considered in any evaluation of environmental flow protection.

The commission responds that domestic and livestock users are not water right holders for the purposes of this chapter, so they are not included in the definition of "Water right holder" in adopted §298.1(12). Domestic and livestock users are unknown and mostly unregulated by the TCEQ, and therefore specific environmental flow standards for these water rights are impossible. Additionally, these uses would not be subject to the environmental flow standards because the standards apply to permits for new appropriations of water. No change was made in response to this comment.

LGRT comments that §298.1(11) defines "Water right permit" but affirmatively excludes "exempt water users." Does this suggest that domestic and livestock users are senior and superior to environmental flow standards and therefore "exempt?" How will the executive director, if at all, implement environmental flow standards in the context of "reasonable use?" How will the executive director, if at all, implement environmental flow standards in the context of a watermaster program?

The commission responds that domestic and livestock users are not water right holders for the purposes of this chapter and are not included in the definition of "Water right permit" in adopted §298.1(13). Therefore, these uses would not be subject to the environmental flow standards because the standards apply to permits for new appropriations of water. Domestic and livestock users are unknown and mostly unregulated by the TCEQ, and therefore specific environmental flow standards for these water rights are impossible. If a permit to which these flow standards are applicable is in a watermaster area, the watermaster will ensure that the water right owner is in compliance with the terms and conditions of the permit, including any special conditions related to the environmental flow standards. No change was made in response to this comment.

TPWD comments that the last sentence should be deleted from the definition of a water right permit because "users" are not the subject of the definition, and the first clause of the definition adequately defines a water right permit.

In this definition, the commission is clarifying that exempt uses are not water rights for purposes of this chapter. The commission has changed the word "users" to "uses" in response to this comment.

§298.10, Applicability

TRA agrees with proposed §298.10. The intent of HB 3/SB 3 is that environmental flow standards and set asides be applicable only to new appropriations or amendments that increase the amount of water to be stored, taken, or diverted. TRA believes that the TCEQ is correct in stating that potential negative impacts from all other amendments can be addressed through existing authority delegated under TWC, Chapter 11.

The commission acknowledges this comment.

KHH would like to know whether Chapter 298 is intended to cover an increase in the quantity or rate of diversion at existing, authorized diversion points if the overall quantity authorized for storage or diversion does not change.

Chapter 298 applies to new appropriations of water. An increase in the diversion rate without an increase in the total quantity for storage or diversion is not a new appropriation; therefore, the environmental flow standards in this rule do not apply. However the commission still has the authority to include special conditions in water rights permits where appropriate. No change was made in response to this comment.

LGRT concurs with the proposed rule that environmental flow standards should only apply to new appropriations of water and to amendments that grant new appropriations of water. LGRT concurs with the executive director's statement that applications submitted pursuant to TWC, §11.042 and §11.046, should not be subject to the rules. LGRT requests that the commission clarify as fully as possible the types of applications that do not involve a new appropriation of water (particularly in the context of amendments to existing rights) such that the rules would not apply and also clarify fully the manner in which the executive director will be making determinations of rule applicability for those applications that do not fall within the types of applications so identified. For example, LGRT suggests that the following amendment applications would not represent new appropriations of water and requests the commission affirmatively address this proposal in its response to these comments: 1) a proposed interbasin transfer of water already appropriated to a water right holder in the basin of origin; 2) a bed and banks authorization, and/or an indirect reuse authorization, proposing the transfer and reuse of return flows; 3) the addition of or change in a purpose of use of an existing water right; 4) the addition of or change in a diversion point to a proposed downstream point of diversion for an existing appropriation along a stream or within a stream reach; and 5) the addition of or change in a diversion point along the perimeter of a water supply reservoir.

Chapter 298 applies to new appropriations of water. However the commission still has the authority to include special conditions in water rights permits where appropriate. The commission agrees that with the exceptions of a bed and banks authoriza-

EXHIBIT 1

tion and/or an indirect reuse authorization proposing the transfer and reuse of return flows, these other types of applications would generally not be considered new appropriations of water. Whether reuse of return flows is a new appropriation of water is an issue in a contested case pending at SOAH. No change was made in response to this comment.

Espey, LGRT, and ANRA suggest §298.10 be modified to clarify that interbasin transfers of water from permits senior to the proposed environmental flow standards are not subject to the proposed environmental flow standards.

Chapter 298 applies to new appropriations of water. The commission agrees that interbasin transfers of existing senior water rights where no new appropriations are being sought are not considered new appropriations of water. No change was made in response to this comment.

ANRA and FNI suggest that the TCEQ should consider waiving compliance with the environmental flow standards for water rights permits that have a diminutive impact to stream flows.

The commission notes that the proposed rules treat small and large water rights differently with respect to how the standards would apply. Under adopted §298.230 and §298.285, pulse flow requirements will not apply to new appropriations for less than 10,000 acre-feet of water. The rule was not modified in response to this comment.

ANRA and FNI suggest that the high flow pulse criteria NOT be applied to reuse permits, regardless of the quantity of return flows being appropriated. Return flows inherently do not produce pulses, and therefore it is inappropriate to apply pulse criteria to them.

Chapter 298 applies to new appropriations of water. Whether reuse of return flows is a new appropriation of water is an issue in a contested case pending at SOAH. No change was made in response to this comment.

WW comments that proposed §298.10(a) makes clear that the rules apply only to the amount of water under new appropriations regarding applications on file on or before September 1, 2007 and suggests that this clarification could be used repeatedly throughout these rules.

The commission respectfully disagrees with this comment because §298.10 clearly states that this chapter only applies to water appropriated under a permit for a new appropriation of water, the application for which was pending with the commission on September 1, 2007, or is filed with the commission on or after that date or to an increase in the amount of water authorized to be stored, taken or diverted, and the application for which was pending with the commission on September 1, 2007, or was filed with the commission on or after that date. The rule was not modified in response to this comment.

DWU comments that water right permit applicants whose applications have been declared administratively complete prior to September 1, 2007 should be granted the option to accept environmental flow special conditions based on the rules at the time of administrative completeness or the new standards.

The commission respectfully disagrees with this comment. HB 3/SB 3 states that the environmental flow standards would only apply to new appropriations of water and amendments that granted a new appropriation of water after September 1, 2007. The rule was not modified in response to this comment.

NWFSCRC comments that §298.10(a) is overbroad because it does not expressly restrict applicability of these rules to those situations for which applicable environmental flow standards have been adopted. The rules must make clear that where there are no applicable environmental flow standards, the provisions of TWC, §11.147(b) - (e) continue to apply. Accordingly, §298.10(a) should be revised to read as follows: "(a) This chapter only relates to a permit for a new appropriation of water or to an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted, and the chapter applies only when there is an applicable adopted environmental flow standard and only to:".

The commission agrees and modified §298.10(a) in response to this comment to clarify that Chapter 298 only applies in areas where there is an adopted environmental flow standard.

DWU notes that numerous water right applications have been filed with the TCEQ prior to September 1, 2007 and have been declared administratively complete prior to September 1, 2007. DWU comments that these applications have been under review for many years and should be grandfathered in the environmental flow standards. Change §298.10(a)(1) to read as follows: "Water appropriated under a permit for a new appropriation of water, . . . declared administratively complete by the commission on or after September 1, 2007."

The intent of HB 3/SB 3 was that the environmental flow standards would only apply to new appropriations of water and amendments that granted a new appropriation of water after September 1, 2007. The rule was not modified in response to this comment.

DWU notes that numerous water right applications have been filed with the TCEQ prior to September 1, 2007 and have been declared administratively complete prior to September 1, 2007. DWU comments that these applications have been under review for many years and should be grandfathered in the environmental flow standards. Change §298.10(a)(2) to read as follows: "The increase in the amount of water authorized to be stored, taken, or diverted under an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted, declared administratively complete by the commission on or after September 1, 2007."

The intent of HB 3/SB 3 was that the environmental flow standards would only apply to new appropriations of water and amendments that granted a new appropriation of water after September 1, 2007. The rule was not modified in response to this comment.

WW comments that §298.10(b) is somewhat confusing in that it states that it does not amend or restrict TCEQ authority to impose special conditions to protect environmental flows. Yet, in establishing environmental flow standards for the Trinity-San Jacinto Basin and for Galveston Bay, the commission is establishing an upward limit on special conditions to protect environmental flows. In fact, HB 3/SB 3 environmental flows procedures were adopted to change TCEQ procedures and to add certainty for all parties regarding the environmental flows needed to maintain a sound ecology at the measurement points. See also proposed §298.15(b) which states that environmental flows standards replace TWC, §11.147(b) - (e) and 30 TAC §297.53 - 297.56.

In the proposal preamble for §298.10(b), the commission stated that it still retained its existing authority to place special conditions in permits to protect the environment. The intent of this

EXHIBIT 1

statement was to clarify that the commission would use special conditions to implement the environmental flow standards for applications for new appropriations of water and applications to increase the amount of water to be taken stored or diverted after September 1, 2007. Additionally, the commission still has authority to use special conditions for those applications which are not for new appropriations or an increase in storage, taking, or diverting of water. No change was made in response to this comment.

SRA Texas and Others concur with the approach that TCEQ staff used to address amendments to reservoirs that do not seek to increase the amount of water stored in a reservoir (increase in the diversion amount up to the firm yield of the authorized storage or adding authorization for interbasin transfer). TCEQ made the diversion right junior to the environmental flow standard and the storage right senior to the environmental flow standard and this concept should be specified in the rules.

The commission agrees that Chapter 298 only applies to new appropriations of water and not to existing water rights. The rule was not modified in response to this comment.

Austin comments that although it does not appear that an amendment to the City of Austin's Lady Bird Lake and Lake Austin impoundment rights in Certificate of Adjudication (Certificate) Number 14-5471A would cause Austin's run-of-river right under Certificate Number 14-5471A to be subject to the additional environmental conditions in these proposed rules, Austin would like the following clarifying language added to the rules to avoid any confusion on this important point: "(c) With regards to amendments of existing water rights, this chapter applies only to the specific water right for which an amendment is being sought and would not apply to other water rights under the same permit, certificate of adjudication or certified filing for which no amendment is sought." Austin understands that it is not the intent, and believes it should not be the intent, of the proposed rules to subject all water rights housed under the same permit to be subject to new environmental flow conditions simply because a permit holder seeks amendment of one of the rights bundled into the same permit.

The commission agrees with this comment. The standards would not apply to portions of existing water rights that were not being amended to add a new appropriation of water. The rule was not modified in response to this comment.

Austin notes that in the future it may seek to add a diversion point for its run-of-river right a short distance upstream and that such an amendment would not seek an increase in appropriation. Under the proposed applicability provision it does not appear that the addition or relocation of a diversion point would subject the diversion right to environmental conditions under the proposed rules; however, clarifying language would be important in this instance also to avoid any confusion. Austin recommends an additional subsection (d) as follows: "(d) This chapter does not apply to an amendment seeking to add or relocate a diversion point." Austin requests as well that any other additional changes needed to make the remaining proposed rules conform with the above recommendations be incorporated into the proposal rules.

The standards would not apply to portions of existing water rights that were not being amended to add a new appropriation of water, including an additional diversion point that will not seek an increase in the diversion amount. The commission still has authority to use special conditions for those applications which are not for new appropriations or an increase in storage, taking, or diverting of water, including a request to add or move a diversion point. Those special conditions could include environmental flow requirements to protect the standards. The rule was not modified in response to this comment.

§298.15, Special Conditions to Protect Environmental Flow Standards and Set-Asides

ANRA and FNI agree with the TCEQ that set-asides are not appropriate for these basins. However, the language of the regulations refers to set-asides in several places. TCEQ should clearly state in the rule that no set-asides are proposed and delete other language that refers to set-asides.

The commission agrees that set-asides were not recommended for these basins. The commission responds that the preamble for §298.225 and §298.280 clearly states that no set-asides are recommended in these basins. The rule was not modified in response to this comment.

ANRA and FNI suggest that the regulations should include the option of the water right applicant to perform a site-specific instream flow study to determine an environmental flow regime if an applicant desires to do so. The results of such a study, after review and approval by the TCEQ, should override the default criteria proposed in these rules. If an applicant does not desire to perform such a study, the criteria in the rule would apply.

Similarly, TPWD does not support the proposal in §298.15(b) that adopted environmental flow standards comprehensively replace TCEQ's obligations under TWC, §11.147(b) - (e) and §§298.53 - 298.56. Proposed §298.15(b) essentially states that it is TCEQ's intent to use the published environmental flow standards for all new projects, including large reservoirs, in lieu of the site-specific studies currently considered to be necessary based on project size, location, ecological community, and potential for causing environmental degradation. While TPWD understands that §298.15(b) tracks the language of HB 3/SB 3 and TWC, §11.147(e-3), TCEQ's interpretation is overly broad. TPWD comments that TCEQ should add a rule whereby the agency retains its authority to require site-specific studies to determine environmental impacts and to craft appropriate special permit conditions to protect particular environmental needs, especially those needs not considered or precisely identified in the adopted environmental flow standard. Similarly, Espey, LGRT, NTMWD, SJRA, and SRA Texas and Others, suggest modifying §298.15(b) to read as follows: " . . . the commission shall apply any applicable environmental flow standard, including any environmental flow set-aside, adopted in this chapter or amounts derived and provided by an applicant through a site-specific study potentially affected by any water right permit application to which this chapter applies, instead of considering factors specified . . . ". They also comment that the balancing asserted by the commission inherently acknowledges the implicit uncertainties in such flow recommendations. As such, anything that might bring more information to bear related to a specific project/location should have the capability to trump the relatively uncertain, arbitrarily defined proposed flow standards. Additionally, LGRT comments that §298.15(b) and (c) need to be adjusted to allow the commission to take into account site-specific studies. Data used to develop the proposed rules was based solely on record hydrology and should not be considered the best available science if site-specific studies associated with a proposed application are available for the agency's consideration. LGRT comments that the rule needs to be clarified to allow applicants to perform and submit

EXHIBIT 1

site-specific studies and to acknowledge the executive director's consideration of same.

The commission respectfully disagrees with these comments. TWC, §11.147(e-3) expressly states: "Notwithstanding Subsections (b) - (e), for the purpose of determining the environmental flow conditions necessary to maintain freshwater inflows to an affected bay and estuary system, existing instream uses and water quality of a stream or river, or fish and wildlife habitats, the commission shall apply any applicable environmental flow standard, including any environmental flow set aside, adopted under §11.1471 instead of considering the factors specified by those subsections." Subsections (b) - (e) are the statutes regulating how the commission protected the environment prior to HB 3/SB 3. It is clear that the bill and TWC, §11.147(e-3) meant for the commission to place any environmental flow standards determined under TWC, §11.1471, in a permit for new water instead of using these other statutes and site-specific data. Under TWC, §11.1471(d), all new appropriations or increases in the storage, taking, or diversion of water issued after an environmental flow standard is adopted must contain the standard. The commission acknowledges that further data may need to be developed. However, HB 3/SB 3 contemplates that this new data and new studies will be considered through adaptive management.

In the proposal preamble for §298.10, the commission stated that it still retained its existing authority to place special conditions in permits to protect the environment. The intent of this statement was to clarify that the commission would use special conditions to implement the environmental flow standards for applications for new appropriations of water and applications to increase the amount of water to be taken stored or diverted after September 1, 2007. Additionally, the commission still has authority to use special conditions for those applications which are not for new appropriations or an increase in storage, taking, or diverting of water. The rule was not modified in response to this comment.

LGRT concurs with the proposed rule that water appropriated to a downstream water rights holder, or other water that may be left in the stream to meet environmental flow needs, should be considered in establishing flows.

The commission acknowledges the comment.

Espey and LGRT suggest adding the following clarifying language, extracted from TWC, §11.1471(d), to the end of §298.15(a): " . . . A permit for a new appropriation or an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted that is issued after the adoption of an applicable environmental flow set-aside must contain appropriate conditions to ensure protection of the environmental flow set-aside."

The commission agrees and §298.15(a) was modified to reflect this comment.

DWU comments that proposed language in §298.15(b) stating "the commission shall apply any applicable environmental flow standard, including any environmental flow set-aside, adopted in this chapter, instead of considering the factors specified in TWC, §11.147(b) - (e) and §§297.53 - 297.56" appears to eliminate the 200-mile provision to maintain beneficial inflows to any affected bay and estuary system. However, HB 3/SB 3 does not eliminate the 200 mile provision to maintain beneficial inflows to any affected bay and estuary system.

The commission has determined that under TWC, §11.147(e-3), the 200-river-mile limit does not apply to environmental flow standards for bays and estuaries unless the science team or stakeholders submit this recommendation to the commission for review during the environmental flows process. The rule was not modified in response to this comment.

BRA comments that §298.15 currently reads like instream flow standards are being incorporated into all water rights permits, not just those qualifying under §298.10 and recommends that this section refer to applicability requirements established in §298.10.

The standards would not apply to portions of existing water rights that were not being amended to add a new appropriation of water. The commission still has authority to use special conditions for those applications which are not for new appropriations or an increase in storage, taking, or diverting of water. Those special conditions could include environmental flow requirements to protect the standards. The rule was not modified in response to this comment.

WW comments that §298.15(c) makes it clear that TCEQ has discretion to "incorporate into every water right permit any condition, restriction, limitation, or provision, . . . " that is reasonably necessary to protect environmental flow standards, to the maximum extent reasonable, considering other public interests and other relevant factors." The TCEQ's wise use of this discretion will become increasingly important in the permitting process. Environmental stream flow standards do not necessarily translate precisely to water rights permits terms and conditions, because operational issues must be addressed. Similar to consideration of enforcement of water rights on a priority basis, TCEQ's use of operational tools such as accounting plans could be used to translate the environmental flow standard to a permit condition regarding daily utility operations.

The commission will consider this comment when it implements the adopted standards in water rights permits. No change was made in response to this comment.

NWFSCRC comments that the proposed language in §298.15(c) is not consistent with TWC, §11.147(e-3). The proposed rule seems to attempt to incorporate a second set of balancing and discretionary review into the permitting process through which TCEQ could decide not to include permit conditions necessary to protect the adopted environmental flow standards. For permits to which the standards apply, TCEQ must apply those standards in developing permit conditions. TCEQ does not have discretion to decide to apply the standards "to the maximum extent reasonable, considering other public interests and other relevant factors" as suggested in the proposed rule. This language would introduce a second layer of balancing and would necessitate individualized permit reviews while establishing the flow standards as a cap. That is not what HB 3/SB 3 provides. To avoid that inconsistency with the statutory directive, the following language should be deleted: "to the maximum extent reasonable, considering other public interests and other relevant factors."

The commission agrees and §298.15(c) has been modified to remove this language.

NWFSCRC comments that the reference in §298.15 to any condition, restriction, limitation, or provision reasonably necessary to "protect" flow standards is a bit unclear. The term "comply with" should be substituted for "protect." Although it might be accurate to refer to protection of an environmental flow set aside,

EXHIBIT 1

it is not clear how permit conditions would "protect" an environmental flow standard.

The commission respectfully disagrees. Special conditions that protect environmental flow standards would be those special conditions that ensure compliance with the standards. The rule was not modified in response to this comment.

§298.20, Priority Date for Set-Asides

DWU notes that §298.20 proposes the priority date for set asides to be set to the date the commission receives environmental flow regime recommendations from each basin and bay expert science team and suggests that it would be more appropriate for this date to be set to the date the commission adopts the proposed rules for each basin.

The commission responds that the priority date for the set-asides is prescribed by TWC, §11.1471(e). The rule was not changed in response to this comment.

LGRT notes that §298.20 proposes to assign priority dates for both environmental flow set-asides and environmental flow standards and comments that the prior appropriation doctrine in Texas and elsewhere in the Western United States is the primary foundation for surface water rights management, and the doctrine has been the subject of significant case law and agency policy for well over 100 years. Therefore, enveloping environmental flow standards with the concept of priority, and arguably making such standards subject to the prior appropriation doctrine, should be avoided if not absolutely necessary. LGRT comments that environmental flow standards should not be assigned priority dates, as they should be considered as flows reserved from appropriation, unlike environmental flow set-asides, which should be considered as stand-alone water rights that would be cloaked with priority. LGRT comments that HB 3/SB 3 did not provide and does not require that environmental flow standards be assigned priority, although HB 3/SB 3 did make it clear that the environmental flow set-asides are to be assigned priority.

The commission responds that the priority date for the environmental flow standards will be used in water rights permitting in the water availability model runs used for water availability analyses. The function of a priority date in the water availability model is to ensure that water rights are processed in seniority order. With respect to environmental flow standards, using a priority date in the water availability model ensures that the standards do not apply to existing senior water rights and do apply to new appropriations of water. By including the standards in the WAM with a priority date, the commission protects pulse flow standards from being permitted to smaller applicants to whom the standards apply. In addition, including the standards in the WAM with a priority date ensures that new appropriations will not affect downstream flow standards. The priority date has no other purpose. In response to these comments, §298.20 has been clarified by adding this explanation.

TPWD disagrees that environmental flow standards should be assigned a priority date. The standards are descriptions of flow conditions that provide for a sound ecological environment; they are simply the technical bases for developing special environmental flow permit conditions for new appropriations or for establishing set-asides. There is no connection between priority dates and standards as standards do not reserve of appropriate a defined amount of water. Section 298.20 is titled "Priority Date for Set-Asides" and it should be limited to set-asides. The TCEQ proposal is inconsistent with HB 3/SB 3 and inserts ambiguity and confusion into the water rights priority system. TPWD suggests that if the proposed "priority date" is simply used in modeling, but it has no legal weight like a priority date for a water right permit, a new term should be used and there should be explicit language to explain the limited use of that date for specific purposes.

The commission responds that the priority date for the environmental flow standards will be used in water rights permitting in the water availability model runs used for water availability analyses. The function of a priority date in the water availability model is to ensure that water rights are processed in seniority order. With respect to environmental flow standards, using a priority date in the water availability model ensures that the standards do not apply to existing senior water rights and do apply to new appropriations of water. By including the standards in the WAM with a priority date, the commission protects pulse flow standards from being permitted to smaller applicants to whom the standards apply. In addition, including the standards in the WAM with a priority date ensures that new appropriations will not affect downstream flow standards. With respect to environmental flow standards, the priority date has no other purpose. In response to these comments, §298.20 has been clarified by adding this explanation.

§298.25, Process for Adjusting Environmental Flow Conditions in Certain Permits

NWFSCRC comments that a mechanism is needed to allow other interests, besides water right holders, to receive notice of such petitions. HB 3/SB 3 expressly acknowledges that many varied persons and groups have a critical stake in protection of environmental flows. It would not be appropriate to limit notice only to navigation districts and those persons and groups who hold water rights. Persons who have asked to receive notice, which could easily include members of the relevant stakeholder committee and expert science team, also should be notified. In order to create a fair notice process, §298.25(c) should be revised to read as follows: "Notice of the petition . . . by the commission. The executive director shall also maintain a list of persons who have requested to receive notice of such petitions and shall provide timely notice to those persons using the address on file with the executive director. . . . The inadvertent failure . . . not an appropriator of water or to a person, other than a water right holder of record in the basin, who has requested to receive notice does not prevent . . . ."

The commission already maintains a list, in the Office of the Chief Clerk, of interested parties in water rights matters. Persons on that list would also receive notice of these petitions. The rule was not modified in response to this comment.

TPWD requests that §298.25(c) add a requirement for mailed notice to TPWD consistent with existing statute (TWC, §11.147(f)) recognizing TPWD as a party on applications to store, take, or divert water.

The commission agrees, and §298.25(c) was modified in response to this comment to add a requirement for mailed notice to TPWD consistent with TWC, §11.147(f).

WW notes that proposed §298.25(d) states that the commission may act on the executive director's petition to adjust a water right with notice but without a public hearing. The proposed summary petition to adjust a water right, potentially involuntarily, does not appear to provide a modicum of due process to the water rights permit holder. It seems appropriate for the commissioners to

EXHIBIT 1

offer some public participation as they move forward to have an impact on the property rights of water rights permittees.

The commission responds that the authority for this subsection comes from TWC, §11.147(e-1), which does not mention a public hearing for the decision to adjust these special conditions. The statute does specify that adjustments may be made after an "expedited public comment process. "This may or may not include a public meeting. The rule was not modified in response to these comments.

TPWD requests that §298.25(e) add a requirement for mailed notice to TPWD consistent with existing statute (TWC, §11.147(f)) recognizing TPWD as a party on applications to store, take, or divert water.

The commission agrees, and in response to this comment, §298.25(e) was modified to add TPWD as an entity that may file a motion for rehearing consistent with changes to §298.25(c).

WW comments that §298.25(e)(2) proposes that the executive director would have a right to file a motion for rehearing in a case where it originally petitioned the commission to adjust a permit for environmental flow special conditions. Motion for Rehearing would give the executive director a right to appeal a commission decision to SOAH and would be unfair to applicants. Allowing the executive director to participate in SOAH hearings regarding permit adjustments for environmental flows is one thing; giving TCEQ staff more than one expensive bite at the apple is quite another. If TCEQ staff cannot convince their own commissioners regarding their recommended permit adjustments, then they should not be put in the position of getting a second chance at everyone else's expense. NWFSCRC comments that it is not clear what is meant by "affected persons, when authorized by law." No law expressly authorizes persons to file a motion for rehearing under Chapter 298. It appears that, as proposed, only the commission, the executive director, and the water right holder would be authorized to file a motion for rehearing. That would be grossly unfair. Any person who can meet the test of being potentially affected should be allowed to file a motion for rehearing. HB 3/SB 3 expressly recognizes the wide variety of stakeholders who are affected by decisions about environmental flow protection. Accordingly, the provision should be rephrased to provide that "other affected persons" may file a motion for rehearing.

NWFSCRC also comments that the requirements of §298.25(f), basically requiring a written motion to be filed with the Chief Clerk, should apply to any person other than a commissioner who is filing a motion for rehearing. As drafted, it refers only to a motion for rehearing filed by an "affected person," which appears to refer only to those persons falling within the proposed language of §298.25(e)(4). OPIC requests clarification on the relationship, if any, between the motion for rehearing provided in proposed subsections §298.25(e) - (g) and the commission's rules at 30 TAC Chapters 55, 80, and 295. Although the term "affected person" is defined in TWC, §5.115(a), it is unclear whether the commission intends to cross-reference proposed §298.25 to the definition of "affected person" in §55.256, to requests by groups or associations in §55.252, and to the motion for rehearing requirements at §80.272. OPIC comments that it is also unclear whether the procedural rules in Chapter 295, specifically Subchapter D, have any bearing on motions for rehearing under proposed §298.25. Furthermore, there is no standard for determining when the commission may refer a matter to SOAH under §298.25(g) and whether there are circumstances when referral is mandatory on the commission. In order to ensure an efficient motion and hearing process, OPIC make the following recommendations: OPIC requests the commission consider defining the term "affected person," including requests by groups or associations, similarly to the definition already provided in Chapter 55. OPIC requests the commission to clarify whether the filing and processing requirements for a motion provided in proposed subsections §298.25(e) - (f) are the same as provided in 30 TAC Chapter 80, including whether motions for rehearing overrule by operation of law. OPIC requests the commission establish standards for determining when it will refer a petition for a public hearing at SOAH.

Because no rehearing procedure is required in TWC, §11.147(e-1), this motion for rehearing is not related to the motion for rehearing mentioned in Chapters 295 or 55. This motion for rehearing procedure is meant to be applicable only to executive director petitions to adjust permit environmental special conditions. The commission did include in §298.25 some of the same requirements that are in §50.139 concerning motions to overturn executive director decisions on permits. Because the executive director is the party that files the petition to change these standards, the executive director should also have the right to file a Motion for Rehearing on the petition. The executive director is not the only party who has the right to file a Motion for Rehearing. The limit on the executive director's right to appeal a commission decision only applies to appeals to a court.

The commission agrees that a definition of "Affected person" would be helpful for this motion for rehearing on an adjustment of an environmental special condition in a permit. The commission adds "Affected person" to the definition section in §298.1 and defines "Affected person" as "persons who meet the requirements of §55.256 for the specific environmental special condition proposed to be adjusted."

TWC, §11.147(e-1) does not require a contested case hearing for adjustments to permits. Because a petition to adjust an environmental flow special condition shall be prepared by the executive director in the manner of an original application of a permit, however, the commission determined that a motion for rehearing by the executive director on a petition could be subject to referral to SOAH if the commission deemed it appropriate. The commission respectfully declines to specify standards for this referral at this time other than that the commission would determine that there is a fact issue to be resolved if it refers a motion for rehearing on the petition to SOAH. The commission would also consider the requirements for adjusting environmental special conditions in permits that are set out in §298.25. Chapter 80 states that it applies to all contested case hearings at SOAH unless this is otherwise provided. Therefore, Chapter 80, to the extent it does not conflict with provisions of Chapter 298, will apply to this contested case hearing referred to SOAH.

LGRT comments that it concurs with the proposal in §298.25(h) that adjustments to water rights for environmental flows "may not exceed 12.5% of the annualized total of the amount required to be adjusted" to the extent the executive director is referring to environmental flow requirements included within water rights issued after September 1, 2007. LGRT also comments that environmental flows conditions included within water rights issued prior to that date are not subject to such adjustments. And, consistent with HB 3/SB 3, LGRT comments that, for an amendment to a water right issued after the rules are adopted, such increase may only be applied to the amount of water sought as a new appropriation pursuant to the amendment. LGRT also requests the executive director consider adding a definition and/or detail

EXHIBIT 1

on how he will calculate the "annualized" total amount, particularly for purposes of pulse flow events.

In response to this comment, the rule was modified to clarify that the annualized total amount refers to the sum of the annual amounts of the base flow and pulse flow conditions as calculated in §298.25(h)(1) and (2).

ANRA and FNI comment that the language implies that the 12.5% change can only increase flows reserved for the environment and suggest that the rules should recognize that a decrease can also occur. DWU comments that the proposed rules only discuss the potential 12.5% increase of the environmental flow requirement and that the proposed rules also need to include a provision for the possibility of a 12.5% decrease in the environmental flow requirement.

The commission respectfully disagrees. TWC, §11.147(e-1)(1) states that the 12.5% cap only applies to increases in the standards. There is no statutory authority for a floor on decreases. The rule was not changed to add a floor on decreases.

USFWS comments that the 12.5% ceiling seeks to limit the degree to which the state can raise environmental flow requirements in future water right permits but that there is no limit on the amount an environmental flow standard or requirement can be reduced. It is clear that the legislation's authors intended to provide water right holders with certainty by limiting increases in any environmental flow requirements placed on their permits. Additionally, the authors wisely incorporated adaptive management into the process in order to refine and adjust flow requirements as knowledge and understanding of how those flows relate to the needs of the environment increases over time. It is important to note that whatever flow standards are chosen, reducing the standards or individual permit requirements will be infinitely easier than raising them in order to maintain a sound ecological environment.

The commission acknowledges this comment.

TPWD comments that, as required by HB 3/SB 3, rules are proposed limiting increases to permit special conditions associated with environmental flow standards to a maximum of 12.5%. HB 3/SB 3 did not provide guidelines or a formula for calculating the up to 12.5% adjustment. The draft rules establish a formula for calculating the maximum adjustment using annualized amounts of instantaneous flows for base and subsistence conditions and annualized amounts of volume determined by totaling all of the required pulses per year. While this method may work, it has the potential to oversimplify the flow components, conditions, and seasonality that may be needed for an adequate flow regime. It may be more appropriate to calculate adjustments for each identified flow component within each identified category (wet, dry, average) and season. Blending seasons and flow categories could diffuse benefits from recommended flow components.

The commission does not intend to create an overly complicated rule. Adopted §298.25(h) also allows some flexibility, and this method is sufficiently protective of the environment because it contains enough factors to sufficiently calculate the amount. The rule was not modified in response to this comment.

WW notes that §298.25(h) states that adjustments to existing permits to meet environmental flow conditions may not exceed 12.5% but comments that the calculation of this 12.5% is unclear. For example, the 12.5% is stated as "the annualized total." It seems possible that annualizing seasonal streamflow restrictions could have the impact of increasing environmental conditions more than the allowable 12.5% under low flow conditions. WW suggests that if environmental flow standards are seasonalized, then perhaps the adjustments should also be based on seasonal impacts so as not to impose a burden greater than 12.5% in any season.

The commission does not intend to create an overly complicated rule. Adopted §298.25(h) also allows some flexibility, and this method is sufficiently protective of the environment because it contains enough factors to sufficiently calculate the amount. The rule was not modified in response to this comment. However, in response to other comments, §298.25(h)(1) and (2) was modified to clarify the meaning of "annualized total."

NWFSCRC comments that it is important to provide a reasonable level of specificity about how the 12.5% calculation would apply to the proposed flows standards that are expressed in cubic feet per second and vary by season and suggests that a logical approach would be to calculate a monthly average cubic feet per second (cfs) value for the year (multiplying each seasonal value by the number of months in the season, adding the totals for each season, and dividing by 12) for each level of flow condition expressed in cfs and to apply the 12.5% calculation to the monthly average cfs value for that season. Thus, in adjusting the permit condition, the adjustment could be applied to any one or more seasons so long as the monthly average cfs value for the year for that flow level, as adjusted, is not more than 12.5% greater than the original requirement for that flow level. Another possible option would be to calculate the annual 12.5% total based on the highest level of flow standards that are expressed in cfs (e.g., the wet base flows) and then allow that total cfs amount to be allocated across the various flow levels.

Also, the reference in the proposed rule to the "original" 12.5% adjustment is confusing. Although there might be multiple smaller adjustments, there could never be more than one 12.5% adjustment. NWFSCRC suggests that the rule language might be revised to read as follows: "(1) For environmental flow conditions expressed in cubic feet per second, the maximum adjustment is calculated by multiplying the monthly average cubic feet per second value of the standard for that particular flow level in cubic feet per second by 12.5%. The monthly average cubic feet per second value is determined by multiplying each seasonal value in cubic feet per second by the number of months in the season, adding the totals for each season, and dividing by 12. The adjustment can vary by season so long as the monthly average requirement in cubic feet per second as adjusted for any particular flow level, including the effect of any previous adjustments pursuant to this section, does not increase the monthly average cfs flow requirement for that flow level above the sum of the original monthly average flow requirement plus the 12.5% adjustment."

The commission does not intend to create an overly complicated rule. Adopted §298.25(h) also allows some flexibility, and this method is sufficiently protective of the environment. The rule was not modified in response to this comment. However, in response to other comments §298.25(h)(1) and (2) were modified to clarify the meaning of "annualized total."

Espey, LGRT, and SRA Texas and Others note that a potential discrepancy exists in the proposed language in §298.25(h)(1) and (2). The operative term is "that requirement contained in the permit," as it states that 12.5% should be applied to the annualized total of that requirement. The amount required to be passed-through to achieve an environmental flow standard is not the amount of the environmental flow standard, but is in-

EXHIBIT 1

stead that amount which could have been utilized but was not. Hence, the commission should modify the text to read as follows: For §298.25(h)(1): " . . . The adjustment, in combination with all previous adjustments, cannot increase the flow requirement above the sum of the original flow requirement plus 12.5% of the pass through or flow requirement." For §298.25(h)(2): " . . . The combination of all previous adjustments, and any new adjustment, cannot increase the flow requirement above the sum of the original flow requirement plus 12.5% of the pass through or flow requirement."

The commission responds that if a water right permit includes a special condition to protect an environmental flow standard, a water right owner would have to comply with that special condition before it could store, take or divert water. The 12.5% adjustment applies to the amount of the standard in the rule. The rule was not modified in response to this comment.

Espey, LGRT, and SRA Texas and Others comment that in §298.25(h), the commission is applying the 12.5% on the annualized amount of the environmental flow standard for each individual flow component. Thus, subsistence, base, and pulse flows can be individually increased by an annualized amount up to 12.5%. As this is applied in an annualized context, this allows the potential for much greater change in any single seasonal criterion, and little certainty regarding potential modifications to the permit. If another criterion is lowered, the potential for change is even greater. Permittees could find that they are able to divert only a fraction of their previous amount during, for instance, a summer month when the water is needed most. This represents a much greater impact to permits than an annual 12.5% reduction. With this implementation, potential permit applicants have less certainty in their permit for water. It is suggested that the text be modified to reflect that the 12.5% adjustment be applied to the pass-through or flow requirement of individual seasonal components.

In §298.25(h), the commission is not proscribing how a flow adjustment would be distributed in a future proceeding but only addressing the calculation of this requirement. The commission disagrees that the proposed rule would allow a greater adjustment to permit conditions than the 12.5% authorized in the statute. The commission does not intend to create an overly complicated rule. At this time, the commission needs to maintain flexibility to determine how these flows would be distributed in the future as it gains experience implementing adjustments to the standards. Adopted §298.25(h) allows this flexibility. The rule was not modified in response to this comment. However, in response to other comments §298.25(h)(1) and (2) was modified to clarify the meaning of "annualized total."

NWFSCRC comments that because all of the proposed standards include more than one pulse requirement during the year, with varying flows and volumes, and because at least some of the proposed standards include more than one level of pulse requirements, more specificity is needed in defining how the adjustment should be calculated. The proposed definition appears to contemplate that the adjustment would be calculated on a per-pulse basis. That would not be consistent with the statutory requirement in TWC, §11.147(e-1)(1). Accordingly, in order to comply with the statutory directive, an annual total volume for each level of pulses should be computed and the 12.5% cap for the adjustment for that level should be calculated based on that annual total. The rule language might be revised to read as follows: "(2) For environmental flow conditions, such as a pulse, expressed with multiple characteristics, such as frequency, peak flow, volume, and duration, the maximum adjustment for any particular level of pulse requirements is calculated by adding the volumes for all of the pulses in that particular level for the entire year and multiplying that annual total volume by 12.5% to generate the maximum adjustment amount. The adjustment can vary by season so long as the new requirement, including the effect of any previous adjustments pursuant to this section, does not result in an annual total of the pulse volume requirement for that level that is greater than the sum of the annual total for the original pulse volume requirement for that level plus the 12.5% adjustment . . . ."

In §298.25(h), the commission is not proscribing how a flow adjustment would be distributed in a future proceeding but only addressing the calculation of this requirement. The commission respectfully disagrees that the proposed rule would allow a greater adjustment to permit conditions than the 12.5% authorized in the statute. The commission does not intend to create an overly complicated rule. At this time, the commission needs to maintain flexibility to determine how these flows would be distributed in the future as it gains experience implementing adjustments to the standards. The adopted rule allows this flexibility. The rule was not modified in response to this comment. However, in response to other comments §298.25(h)(1) and (2) was modified to clarify the meaning of "annualized total."

LCRA urges that the rules adopt a more flexible approach than set forth in §298.25(h) regarding the process for adjusting environmental flow conditions in certain permits. Specifically, the proposed rules set forth only two possible methods for calculating allowed adjustments to permit conditions that necessarily, and prematurely, assume that all permit special conditions affected by these rules will fall into one of those two categories (either a flow requirement or a pulse requirement). LCRA believes this may be overly restrictive, particularly since standards have only been proposed for two bay/basin areas and no specific rules or guidelines set forth how those standards will be applied in the development of language for specific permit special conditions. To address the potential that a permit special condition subject to these rules might not fit neatly into one of these two categories, LCRA recommends that the TCEQ add §298.25(h)(3) to read as follows: "(3) For other environmental flow conditions not expressed in the method set forth in subsections (1) or (2) above, the method for calculating the maximum adjustment allowed will be determined on a case-by-case basis."

The commission responds that adopted §298.25(h) adequately accounts for the flow components included in the Chapter 298. Adopted Chapter 298 includes standards for subsistence, base, and pulse flows, and §298.25(h) includes a method to calculate an adjustment to these flow components. If these flow components change in the future and modifications are needed, those modifications can be considered during future rulemaking. The rule was not modified in response to this comment.

NWFSCRC suggests that a new provision, §298.25(h)(3), is needed to address adjustments for freshwater inflow requirements that are stated in units of volume. TWC, §11.147(e-1) expressly directs that the reopener mechanism must include provisions for protection of freshwater inflows in addition to provisions for protection of instream flows. Because inflow requirements may be stated solely in terms of volume, although associated with a different attainment frequency, proposed §298.25(h)(2) may not apply. The rule language might read as follows: "(3) For environmental flow conditions, such as freshwater inflow requirements, that might be expressed with multiple

EXHIBIT 1

inflow levels and with volume totals that vary by season, the maximum adjustment for any particular inflow level is calculated by adding the volumes for all of the seasons in that particular level for the entire year and multiplying that annual total volume by 12.5% to generate the maximum adjustment amount. The adjustment can vary by season so long as the new requirement, including the effect of any previous adjustments pursuant to this section, does not increase the total volume for that inflow level above the sum of the annual total for the original volume requirement for that level plus the 12.5% adjustment."

The bay and estuary inflow standards in adopted §298.225 will not be directly placed in a permit, but will be considered during the water availability analysis for new appropriations of water. However, the commission does agree that inflow requirements would be subject to adjustment. Inflow requirements may vary by basin and bay system. Therefore, the commission will include the adjustment method for freshwater inflows in the chapter for basin and bay systems with inflow standards. Adopted §298.225(b) has been added in response to this comment.

LCRA notes that as proposed under §298.25(j)(1) and (2), a water right holder would only receive credit for a voluntary contribution to the Texas Water Trust or voluntary amendment to an existing water right if the additional amount of water provided to meet environmental flow needs was available in 75% of the years. LCRA is concerned that this prescribed annual reliability for any and all contributions or amendments ignores the fact that certain types of environmental flows need not occur with such a high frequency to provide benefit and "actually contribute toward meeting the applicable environmental flow standard." Indeed, some environmental flows are needed with higher or lower frequency. While this is recognized in some of the proposed environmental standards under consideration in this rule, it is ignored here in favor of an arbitrary standard. LCRA suggests the agency strike proposed §298.25(j)(1) and (2), which would allow the agency to actually determine, on a case-by-case basis, whether a particular contribution or water right amendment "actually contributes toward meeting the applicable environmental flow standard."

The commission respectfully disagrees with this comment. As stated in the adoption preamble for §298.25, water rights vary in reliability or the amount of time that water is actually present in a watercourse. Adopted §298.25(j) recognizes that a contribution of reliable water should be entitled to higher consideration and credit than a similar contribution of less reliable water. The rule was not modified in response to this comment.

KHH notes that §298.25(j) provides that "any water right holder who makes a contribution or amends a water right as described herein is entitled to appropriate credit for the benefits of the contribution or amendment against the adjustment of the holder's existing water right permit conditions . . . " and would like to know whether TCEQ has considered the technical and legal viability of allowing (under appropriate circumstances) the leasing or trading of such credits, that is, allowing a credit gained by one water right holder to be applied against the adjustment of another water right holder's permit. These kinds of arrangements - either temporary or permanent - would clearly only be possible between certain water rights holders, but some flexibility in this regard might ultimately prove advantageous.

The commission respectfully declines to adopt a trade or leasing program in this rulemaking because it believes that it is not contemplated in HB 3/SB 3. HB 3/SB 3 sets up procedures for the TCEQ to follow; this type of trade or lease is not mentioned, and a statutory change would be necessary for the commission to create such a program. The commission may revisit this issue at a later time. No change has been made in response to this comment.

WW comments that §298.25(j) addresses voluntary contributions to environmental needs or bay and estuary inflows but at the same time does not define the nature of a voluntary contribution. Accordingly, voluntary contributions should be defined as any amount of water a water rights permittee voluntarily dedicates to remain as instream flows without the commission requiring a calculation or determination of the amount to be foregone. Permittees should be specifically credited with these amounts of state water available for appropriation which they have opted not to appropriate. These credits should then be used to offset additional permit adjustments for environmental flows during the relevant time periods. Otherwise, flows voluntarily set aside for the environment would only penalize the permittee in later applications.

The commission respectfully disagrees with this comment. The appropriation of state water is the commission's decision alone to make. The suggested procedure does not provide any protection for the environment for the next applicant that decides to "opt not to appropriate" the same water. Applicant after applicant could get a credit but the environment get no more protection than before these applicants started "opting not to appropriate" state water. The rule was not modified in response to this comment.

NWFSCRC comments that as drafted, the proposed language in §298.25(j)(1) and (2) seems incomplete. Amendments to add a use do not seem to be addressed in §298.25(j)(1) and do not seem to be qualified in the same way in §298.25(j)(2) as contributions to the Texas Water Trust or amendments to change a use. Also, the term "permit's time interval" is ambiguous. We have interpreted that term to refer to a permit that allows use only during certain portions of the year and have proposed clarifying language based on that interpretation. The proposed rule language might be replaced with the following text: "(1) For voluntary contributions to the Texas Water Trust or voluntary amendments to change the use or add a use that meet the requirements of this Subsection where the total volume of water is shown to be available in at least 75% of the years, the water right is entitled to credit for the contribution or amendment against the adjustment only by spreading out the amount of the contribution or amendment evenly over the year, or, if the underlying permit limits the portion of the year when use is authorized, over that portion of the year when use is authorized in the underlying permit; and (2) For voluntary contributions to the Texas Water Trust or voluntary amendments to change the use or add a use that meet the requirements of this Subsection where the total volume of water is not shown to be available in at least 75% of the years, the water right is entitled to credit for the contribution or amendment against the adjustment only by spreading out one-half of the amount of the contribution or amendment evenly over the year, or, if the underlying permit limits the portion of the year when use is authorized, over that portion of the year when use is authorized in the underlying permit; and."

The commission agrees, and §298.25(j) was modified to reflect this comment.

NWFSCRC proposes a §298.25(j)(3) that would give the commission discretion to distribute the credit for a contribution to the Texas Water Trust in a different manner where water storage is available in order to provide maximum benefit to the environ-

EXHIBIT 1

ment. The following rule language could be added: "(3) For water rights that are voluntarily contributed to the Texas Water Trust and that include storage allowing the water to be provided, in at least 75% of the years, during critical months of the year, the commission may allow credit for the contribution without spreading the amount of the contribution evenly across the year if the commission determines that doing so would result in better protection for the environment."

The commission agrees, and in response to this comment §298.25(j)(3) was added and requires that the underlying water right must authorize diversion from storage.

Subchapter B: Trinity and San Jacinto Rivers, and Galveston Bay

General

BLC, Environmental Stewardship, Galveston Baykeeper, GBF, Houston Audubon, Junior Anglers and Hunters of America, NWF, NWFAF, NWFSCRC, Sierra Club-Lone Star, and more than 2,300 individuals comment that the proposed environmental flow standards are deficient and fall short of being protective of a sound ecological environment.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in §298.225. The commission also modified adopted §298.225 to include a seasonal component for inflows to Galveston Bay. These changes are discussed in the adoption preamble for §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

BAHEP, Big Thicket, BLC, Environmental Stewardship, Galveston Baykeeper, GBF, Houston Audubon, Junior Anglers and Hunters of America, NWFAF, NWFSCRC, Sierra Club-Lone Star, TPWD, and more than 1,700 individuals comment that the standards need to be strengthened in accordance with the alternate rule proposal submitted by the National Wildlife Federation and Sierra Club-Lone Star.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. With respect to the alternate recommendation referenced in this comment, the commission modified some of the specific numerical values for the flow components in adopted §298.225 to reflect those in the alternate recommendation, plus an increase in the base flow values in the San Jacinto Basin. The commission also modified adopted §298.225 to include a seasonal component for inflows to Galveston Bay. These changes are discussed in the adoption preamble for §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

BLC, CCA Texas, Environmental Stewardship, GBCPA, GBF, Houston Audubon, NWF/LSCSC, Sierra Club-Houston, and five individuals suggest that TCEQ add for public comment the alternative environmental flows recommendation "Recommended Environmental Flow Standards and Strategies for the Trinity and San Jacinto Rivers and Galveston Bay" developed by members of the basin and bay area stakeholder committee, in addition to the current pending proposal.

At the proposal agenda, the commission modified the rule proposal preamble to specifically invite commenters to provide information different from the proposed standards. The commission did receive comments on the alternate recommendations provided by NWFSCRC and is responding to those comments. The alternate recommendation was made available on the commission's Web site.

More than 700 individuals request that TCEQ strengthen the proposed flow standards for the Trinity and San Jacinto Rivers/Galveston Bay to ensure sufficient water for wildlife, recreation, and seafood.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, alternate recommendations, and comments to the proposed rules when drafting the adopted standards. In response to comments, the commission modified some of the specific numerical values for the flow components in adopted §298.225 to reflect those in the alternate recommendation, plus an increase in the base flow values in the San Jacinto Basin. The commission also modified adopted §298.225 to include a seasonal component for inflows to Galveston Bay. These changes are discussed in the adoption preamble for §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

Environmental Stewardship and Houston Audubon comment that the pending proposed environmental flow standards do not meet the statutory requirements.

The commission respectfully disagrees with this comment. The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, alternate recommendations, and comments to the proposed rules when drafting the adopted standards.

One individual comments in support of the proposed rules and adds that they are achievable and that there is no need to further confuse the issue by proposing another set of rules. This individual also notes that it is evident that the environmental conditions are currently satisfactory in the Trinity/San Jacinto Basin and Bay complex and has confidence that should that conditions start to change, additional rules will be considered.

The commission acknowledges the comment. At the proposal agenda, the commission did modify the rule proposal preamble to specifically invite commenters to provide information different from the proposed standards. The commission did receive alternative recommendations and comments on those alternate recommendations. The alternate recommendation is posted on the commission's Web site.

NWFSCRC comments that the adoption of flow standards inadequate to achieve the goal of protecting a sound ecological environment is not justified by other considerations. No group actually provided an evaluation of the protectiveness of the proposed standards and found them adequate to protect a sound ecological environment as a starting point for TCEQ review. Similarly, no evaluation by TCEQ staff has been undertaken to demonstrate the protectiveness of the proposed standards and their adequacy to protect a sound ecological environment. The SAC evaluated the conditional group's recommendations on which the proposed standards are based and found them inadequate to comply with the statutory standard for an environmental flow regime. The executive director's review of potential impacts on future water supply projects concluded that implementation of the proposed standards would result in no significant impact. That finding would not justify the failure to adopt standards adequate to protect a sound ecological environment.

EXHIBIT 1

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. The stakeholders determined that this bay and basin system was a sound ecological environment. The commission gave deference to the finding made by the stakeholders, who considered input from the science team for the basin and bay system. The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, alternate recommendations, and comments to the proposed rules when drafting the adopted standards. The SAC's comments were among those considered. The commission notes that the proposed standards in §298.225 were modified in response to comments. The changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

NRG supports the environmental flow standards as written by the TCEQ. The BBEST members for the San Jacinto, Trinity, and Galveston Bay did agree that the current state of this system is that a healthy environment exists. The standards provide for protection of the environment, and adaptive management and future studies could result in changes as the science is further developed.

The commission acknowledges the comment.

TRA agrees that return flows which pass a control point should be used, in real time, to meet special conditions for environmental flows; however, return flows, historical or projected, should not be used in determining water availability for a third party in light of environmental flow standards or set asides. These return flows may not be under the control of the permittee and are subject to direct reuse along with myriad other factors that could affect future discharge volumes.

The commission acknowledges the comment concerning using return flows to satisfy special conditions for environmental flows. The possible use or non-use of return flows for water availability is not the subject of this rulemaking, and therefore, the commission makes no response to this comment. The commission notes that at the time of the adoption of this rule, the issue of how return flows should be treated in determining water availability is an issue in a contested case pending SOAH. The commission makes no changes in response to this comment.

One individual comments that the process by which the standards have been developed was contentious, inefficient, and underfunded; however, it was inclusive and transparent, highly desirable attributes in democratic decision making. This individual suggests that TCEQ, TPWD, and TWDB evaluate the process and develop procedural guidelines that would improve efficiency without sacrificing transparency.

The commission acknowledges this comment. The process for determining the standards is outlined in HB 3/SB 3 and the commission followed this process. The agencies cannot change this process without a statutory change. No change was made in response to this comment.

BLC does not want TCEQ to adopt any rule that does not propose standards that provide a natural flow regime, fully protective of existing aquatic resources in the Trinity and San Jacinto River basins. This should include standards that are protective of the ecological integrity of the tributary streams for these rivers. At present, the alternative standard to the proposed rule, the "regime group" proposal, approved by the majority of the members of the BBEST, is the only proposal that approaches this goal and provides some measure of protection for BLC's property interest in conservation easements located on rivers, streams, and bayous directly affected by these proposed rules and for the public trust interest that has been created for natural resource damages to these areas.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. Under HB 3/SB 3, the commission is required to balance human and other competing water needs in the river basin and bay system. The commission also considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments to the proposed rules when drafting the adopted standards. The commission made no changes in response to this comment. The commission notes that the proposed standards in §298.225 were modified in response to other comments. The changes are discussed in the adoption preamble for §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for those sections.

BPA has reviewed the proposal made by the "Regime Group" and a majority of the BBEST and feel that it is a start in the right direction in trying to define the complex freshwater inflow needs of this broad ecosystem and the economic and cultural developments that depend on it. This allocation system will require periodic review in the face of new information to determine that this allocation is sufficient to sustain the complex systems that require freshwater.

The commission acknowledges this comment. The commission modified adopted §298.225 to include a seasonal component for inflows to Galveston Bay. The changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for those sections. The adaptive management provisions in TWC, §11.02362 require that the standards be reevaluated as more information becomes available.

BPA urges the TCEQ to continue to be attentive (as provided under existing authority) to the contributions of return flows and interbasin transfers as they impact the instream uses in area waterways and freshwater inflows to Galveston Bay.

The commission acknowledges this comment.

One individual notes that beginning in the Spring of 1973, a bi-weekly assessment of the phytoplankton in Trinity Bay was conducted. The 35 stations were sampled for eight years. The data from this study of the phytoplankton, water chemistry, zooplankton, benthos, and nekton were sent to the Environmental Protection Agency monthly. The discharge rate at Lake Livingston was recorded regularly. This individual comments that it appears that neither the $8 million court ordered data nor the discharge data were incorporated into the current proposal.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments to the proposed rules when drafting the adopted standards. The commission notes that the proposed standards were modified in response to comments. The changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

Espey and LGRT support the TCEQ basing the standards on the recommendations proffered by 15 of the 24 Trinity and San Jacinto River basins stakeholder committee members.

EXHIBIT 1

The commission acknowledges this comment but notes that the proposed standards were modified in response to comments. The changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

One individual comments that Galveston Bay needs to remain healthy. The quality of this ecosystem has improved greatly over the years but this proposed rule on environmental flow standards will be a regression in improving water quality and the ecosystem.

The commission notes that with respect to Galveston Bay, the adopted rule was modified in response to other comments. The changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

One individual requests the TCEQ to revise the proposed rule and keep the waterways clean. This individual's property backs up to the Green River which feeds to Gum Bayou and Dickinson Bayou and on into Galveston Bay. This individual wants it to be as clean as possible and continue to benefit everyone.

The commission acknowledges the comment. In response to comments, the commission modified some of the specific numerical values for the flow components in adopted §298.225 to reflect those in the alternate recommendation, plus an increase in the base flow values in the San Jacinto Basin. The commission also modified adopted §298.225 to include a seasonal component for inflows to Galveston Bay. These changes are discussed in the adoption preamble for §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

Galveston Baykeeper comments as a person who has lived in Texas for a long time and who is very concerned about the water, not just in Galveston Bay, but in Texas. Galveston Baykeeper would like to know where the conservation and efficiency component comes into this issue. Conservation and efficiency have to be looked at; Galveston Bay needs water.

The HB 3/SB 3 Environmental Flows process is intended to develop environmental flow standards to be placed in permits for new appropriations of water. When evaluating new permit applications, the commission applies the applicable rules and statutes related to water conservation and efficiency. No change has been made in response to this comment.

One individual very strongly urges the TCEQ to reconsider what is best for all Texas and not just those powerful entities who are pressing to minimize the inflow standard for their own interests. This will affect everyone, including future generations. Do what is right long-term and sustainable for everyone, not just for the few in power that will benefit short-term and in a non-sustainable way. This is the time to make a very serious decision that will affect everyone.

The commission has followed its statutory responsibilities in TWC, §11.1471, to the best of its ability and balanced various interests as required by the statutes. No change was made in response to this comment.

§298.200, Applicability and Purpose

NWFSCRC comments that the language of §298.200 providing that the provisions of Subchapter B control over Subchapter A is overbroad and could produce unnecessary ambiguity. There are numerous provisions in Subchapter A addressing issues not directly addressed in Subchapter B that should continue to apply. That language should be limited to provide that in the case of "a direct conflict," the provisions of Subchapter B control over the provisions of Subchapter A.

The commission agrees, and in response to this comment modified §298.200 to clarify that in case of direct conflict, provisions of Subchapter B control over those in Subchapter A.

§298.205, Definitions

NWFSCRC comments that a single base flow level is not sufficient to meet the statutory standard of protecting a sound ecological environment to the maximum extent reasonable considering other relevant interests. It does not account for fluctuations in flow levels based on year-to-year changes reflecting wet and dry conditions. There is no reason why a multiple-level base flow component that does account for such fluctuations cannot be implemented.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors including human and other competing needs for water, and comments to the proposed rules when drafting the adopted standards. The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of base flow, at the specific flow levels included in the alternate recommendation, in this basin and bay system. The commission also considered human and other competing needs for water in developing the adopted standards. Therefore, the commission is adopting a simplified flow regime. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient flow variability. HB 3/SB 3 contemplates that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The commission notes that the proposed standards were modified in response to comments. The changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

NWFSCRC comments that the proposed base flow values are extremely low. Generally, they represent approximately the 5th to 10th percentile of overall flows during the historical period. As noted by the TPWD, flows as low as the base flow recommendations for three of the four seasons at the Oakwood site, just as one example, have not been experienced in the last 50 years. Although these facts alone don't represent a definitive case for rejecting the base flow values out of hand, they do illustrate the need for an affirmative demonstration that the proposed flow levels are adequate to support a sound ecological environment or that they represent the highest levels that can be protected due to other compelling considerations. No such demonstration has been, or could be, made with respect to these values.

Commission staff performed a water quality analysis on the proposed standards. The water quality analysis considered the relationship between streamflow and the water quality parameters identified by the BBEST to look for trends and criteria excursions. This analysis did not identify any areas of concern. The commission notes that it modified some of the proposed standards

EXHIBIT 1

to reflect specific numerical values included in an alternate recommendation, plus an increase in the base flow values in the San Jacinto Basin. The changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

ANRA and FNI support the ability of each BBEST/BBASC group to define a "sound ecological environment" for their basins and bays but would like to see criteria that are measurable in those definitions. As currently proposed in §298.205, metrics to establish adaptive management for the purpose of maintaining a sound ecological environment are not identified.

The commission notes that specific monitoring and studies to support adaptive management may be included in the workplans submitted by the BBASC. At this time, there is not an approved workplan for this basin and bay system. The rule was not modified in response to this comment.

WW notes that proposed §298.205(3), defining "sound ecological environment" for the Trinity-San Jacinto Rivers and Galveston Bay, differs significantly from the same definition for the Sabine-Neches Rivers and Sabine Lake Bay. There seems to be no legal justification for different definitions. To the extent that the Trinity-San Jacinto Rivers and Galveston Bay definition does not mention reservoirs as aquatic habitat and seems to call for conditions "comparable to that of the natural habitat of a region," it seems confusing and inappropriate.

The commission gave deference to the definition of "sound ecological environment" made by the stakeholders for this basin and bay system. The commission does not want to limit the ability of future stakeholder and expert science groups to define these terms in their future, location-specific recommendations. The rule was not modified in response to this comment.

NWF/LSCSC and NWFSCRC suggest adding §298.205(2) as follows: "Low condition--the hydrologic condition determined by the cumulative upstream storage that would be exceeded more than 75% of the time based on full exercise of all water rights over a period from 1940 to 1996, when the monthly upstream storage conditions are ranked from driest to wettest." NWF/LSCSC and NWFSCRC also suggest adding §298.205(4) as follows: "High condition--the hydrologic condition determined by the cumulative upstream storage that would be exceeded more than 75% of the time based on full exercise of all water rights over a period from 1940 to 1996, when the monthly upstream storage conditions are ranked from driest to wettest." NWF/LSCSC and NWFSCRC suggest adding §298.205(5) as follows: "Medium condition--the hydrologic condition that is neither a high condition nor a low condition."

Adopted §298.225 includes only one level of base flows; therefore, there is no need for definitions of hydrologic conditions. The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of base flow, at the specific levels proposed by the commenters, in this basin and bay system. The commission also considered human and other competing needs for water in developing the adopted standards. Therefore, the commission is adopting a simplified flow regime. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient flow variability. HB 3/SB 3 contemplates that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rules were not changed in response to this comment.

NWF/LSCSC and NWFSCRC suggest adding §298.205(3) as follows: "Galveston Bay system--the estuary system consisting of Galveston Bay and Trinity Bay, along with smaller associated bays including East Bay and West Bay."

The commission agrees and a definition for "Galveston Bay" was added to adopted §298.205 in response to this comment.

§298.210, Findings

One individual would like to know what TCEQ means when it says that "The Trinity and San Jacinto Rivers, their associated tributaries, Galveston Bay, and the associated estuaries are healthy and sound ecological environments . . . "and " (b) The commission finds that these sound ecological environments." TCEQ must state what "healthy and sound ecological environments" means and tell how this determination was derived.

"Sound ecological environment" is defined in adopted §298.205(4). The stakeholders made this finding. The commission gave deference to the finding made by the stakeholders, who considered input from the science team for the basin and bay system. The science team considered the available science as of this date and there is no evidence that the adopted standards would not support a sound ecological environment. The adopted standards are not based solely on scientific information. The commission followed its instructions in TWC, §11.1471, by balancing human and other competing needs for water with the scientific recommendations. HB 3/SB 3 contemplates that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

One individual comments it should be obvious to TCEQ that the finding that "The Trinity and San Jacinto rivers, their associated tributaries, Galveston Bay, and the associated estuaries are healthy and sound ecological environments" was made out of the necessity of applying data driven assessment methods to the analysis of impacts from changes in environmental flows. The individual further comments that many of the tributaries, reservoirs on the rivers, and portions of the estuary are listed on the Clean Water Act, §303(d) list of impaired waters and are subjects of Total Maximum Daily Load (TMDL) processes. Some native species are considered threatened, and all of the water bodies and their shorelines have been invaded by exotic species. These are not attributes of "sound ecological environments," but there is insufficient data on the water bodies prior to impacts due to pollution, land conversion and resource extraction to characterize them for assessment of future impacts. This individual suggests that the text of the proposed rule include some explanation of this finding that recognizes the documented impacts of humans on these aquatic systems. Similarly, USFWS comments that the TCEQ provides no scientific basis for the statement that the basin has a sound ecological environment and is concerned that this basin may not be sound for several reasons. There have significant losses of riparian wetlands and bottomland forest, populations of migratory birds that depend on bottomland forest have declined, several species of mollusks are either listed

EXHIBIT 1

by the state, are species of concern, or have been petitioned for listing under the Endangered Species Act, and several stream segments do not meet water quality standards. In the bays and estuaries, significant wetlands have been lost, several commercially and recreationally important fisheries are in decline, fish consumption advisories are in place, several species of wetland-dependent birds are in decline, a negative sediment budget prevails, and millions of dollars have been expended and continue to be sought to restore important wetlands and biological resources. USFWS states that some of these issues are directly related to changes in hydrology while others are indirectly related. There were limited to no analyses or references provided by the BBEST, BBASC, or TCEQ to support the claim that the riverine and estuarine environments are sound. USFWS recommends further analysis to determine whether the basin is a sound ecological environment consistent with the SAC and TIFP definitions and further recommends that factors associated with hydrological modifications and those that are independent be segregated in the analyses. USFWS comments that an alternative approach would be to equate a sound ecological environment to baseline conditions, thereby dispensing with historical changes through time and the negative effects of some of these changes.

"Sound ecological environment" is defined in adopted §298.205(4). The stakeholders made this finding. The commission gave deference to the finding made by the stakeholders, who considered input from the science team for the basin and bay system. The science team considered the available science as of this date and there is no evidence that the adopted standards would not support a sound ecological environment. The adopted standards are not based solely on scientific information. The commission followed its instructions in TWC, §11.1471, by balancing human and other competing needs for water with the scientific recommendations. HB 3/SB 3 contemplates that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

One individual comments that the finding in §298.210 describes the causal relationship between a sound ecological environment and a set of flow standards that varies in quantity over time and space. This section specifically recognizes the importance of seasonal variation in flow amounts. This individual agrees that this is a critical characteristic of environmental flows that must be maintained to protect the ecology of these aquatic systems. However, in subsequent sections, the TCEQ does not follow this finding.

The commission agrees that seasonal variation in flow amounts is important and the adopted standards vary seasonally. No change was made in response to this comment.

NWFSCRC comments that the finding in §298.210(b) is unsubstantiated. There is simply no basis for a finding that a sound ecological environment can be maintained, much less best be maintained, by a schedule of flow quantities that contains subsistence flows, only one level of base flows, and one level of high flow pulses. There is certainly no basis for that contention with flow quantities as low as those proposed. Such a schedule does not even meet the definition of an "environmental flow regime" because yearly fluctuations are not reflected. Although there could be differences in flow amounts in various years based on rainfall only because the standards would not be met in some years, which would also be true for a standard consisting only of a single minimum flow level, the underlying schedule simply does not reflect a flow regime as called for by HB 3/SB 3, SAC guidance, the National Research Council (NRC) review of the TIFP, or the state's "Texas Instream Flow Studies: Technical Overview" document. Furthermore, by selecting values for subsistence, base, and pulse flows in the proposed rules that represent extremely low values for each category, meaningful year-to-year variations would not be protected. Because there is no basis for finding that other public interests or factors necessitate the adoption of a less protective regime, the commission should adopt the environmental flow standards recommended in this comment letter.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission also considered staff's water availability analyses on the adopted standards. The commission notes that some of the specific numerical values the commenter addresses have been modified in response to this and other comments. In the adopted rule, the commission modified the proposed numerical flow values for subsistence, base flow, and high flow pulses referenced in the comment letter for the applicable flow components in the adopted rule. The changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

§298.215, Set-Asides and Standards Priority Date

LGRT notes that in §298.215, the executive director proposes to assign priority dates for both environmental flow set-asides and environmental flow standards. LGRT comments that the prior appropriation doctrine in Texas and elsewhere in the Western United States is the primary foundation for surface water rights management, and the doctrine has been the subject of significant case law and agency policy for well over 100 years. Therefore, enveloping environmental flow standards with the concept of priority, and arguably making such standards subject to the prior appropriation doctrine, should be avoided if not absolutely necessary. LGRT comments that environmental flow standards should not be assigned priority dates, as they should be considered as flows reserved from appropriation, unlike environmental flow set-asides, which should be considered as stand-alone water rights that would be cloaked with priority. LGRT comments that HB 3/SB 3 did not provide and does not require that environmental flow standards be assigned priority, although we agree that HB 3/SB 3 made it clear that the environmental flow set-asides are to be assigned priority.

The commission responds that the priority date in §298.215 for the environmental flow standards will be used in water rights permitting in the water availability model runs used for water availability analyses. The function of a priority date in the water availability model is to ensure that water rights are processed in seniority order. With respect to environmental flow standards, using a priority date in the water availability model ensures that the standards do not apply to existing senior water rights and do apply to new appropriations of water. By including the standards in the WAM with a priority date, the commission protects pulse flow standards from being permitted to smaller applicants to whom the standards apply. In addition, including the standards in the WAM with a priority date ensures that new appropriations will

EXHIBIT 1

not affect downstream flow standards. The priority date has no other purpose. Section 298.215 has been clarified in response to these comments.

TPWD notes that §298.215 states that the priority date for set-asides and environmental flow standards will be December 1, 2009. However, set-asides are not proposed and TPWD does not believe that priority dates are appropriate for environmental flow standards. The fact that TCEQ does not recommend any set-asides in the proposed rules package, coupled with lower flows than would be identified by current default methodologies (i.e., Lyons and 7Q2), results in an observation that as a result of this environmental flows legislation, TCEQ has essentially increased the amount of unappropriated water available in these basins while lowering the level of environmental protection, particularly at the low end of the spectrum.

The priority date for the environmental flow standards will be used in water rights permitting in the water availability model runs used in water availability analyses. The function of a priority date in the water availability model is to ensure that water rights are processed in seniority order. With respect to environmental flow standards, using a priority date in the water availability model ensures that the standards do not apply to existing senior water rights and do apply to new appropriations of water. By including the standards in the WAM with a priority date, the commission protects pulse flow standards from being permitted to smaller applicants to whom the standards apply. In addition, including the standards in the WAM with a priority date ensures that new appropriations will not affect downstream flow standards. With respect to environmental flow standards, the priority date has no other purpose. Section 298.215 has been clarified in response to comments on this issue. The commission respectfully disagrees that the adopted standards increase the amount of unappropriated water in these basins. Unappropriated water is the amount of water remaining in the stream after all water rights have diverted their full authorized amounts. Because the standards do not apply to existing water rights, the amount of unappropriated water in the streams has not changed as a result of this rule making.

DWU notes that §298.215 proposes the standards priority date of December 1, 2009, for the Trinity and San Jacinto Rivers and Galveston Bay, the date the commission received the BBEST recommendations and suggests that it would be more appropriate for this date to be set to the date the commission adopts the proposed rules.

The commission responds that the priority date for the environmental flow standards will be used in water rights permitting in the water availability model runs used for water availability analyses. The function of a priority date in the water availability model is to ensure that water rights are processed in seniority order. With respect to environmental flow standards, using a priority date in the water availability model ensures that the standards do not apply to existing senior water rights and do apply to new appropriations of water. By including the standards in the WAM with a priority date, the commission protects pulse flow standards from being permitted to smaller applicants to whom the standards apply. In addition, including the standards in the WAM with a priority date ensures that new appropriations will not affect downstream flow standards. The priority date has no other purpose. The December 1, 2009 date is the date the science team submitted their recommendations. The commission used its discretion and determined that this date is appropriate for representing the standards in the water availability model for purposes of performing the balancing analysis. Section 298.215 has been clarified in response to these comments.

NTMWD and SJRA comment that the executive director needs to clarify in more detail how the rules will apply to new appropriations of water or amendments to existing rights that authorize a new appropriation of water. In particular, NTMWD and SJRA have concerns regarding how interbasin transfers will be addressed with respect to the rules. As proposed, it appears that environmental flow standards will come with a time priority, and given the provision of TWC, §11.085(s), this may have unintended consequences for moving existing appropriations of water between basins, inasmuch as affixing a priority date on an environmental flow standard in the basin of origin could impact the ability to divert water for conveyance to the receiving basin.

The commission responds that the priority date for the environmental flow standards will be used in water rights permitting in the water availability model runs used for water availability analyses. The function of a priority date in the water availability model is to ensure that water rights are processed in seniority order. With respect to environmental flow standards, using a priority date in the water availability model ensures that the standards do not apply to existing senior water rights and do apply to new appropriations of water. By including the standards in the WAM with a priority date, the commission protects pulse flow standards from being permitted to smaller applicants to whom the standards apply. In addition, including the standards in the WAM with a priority date ensures that new appropriations will not affect downstream flow standards. The priority date has no other purpose. Additionally, a water availability analysis would not be performed in the receiving basin for water that is already appropriated in the basin of origin and the adopted standards would not apply in the receiving basin. Section 298.215 has been clarified in response to these comments.

§298.220, Schedule of Flow Quantities

LGRT requests further clarification in proposed §298.220 on whether all flow conditions "reset" each month. In other words, does the standard reset to subsistence flow if other flow conditions were not maintained in the month prior (e.g., subsistence and base flows)?

Adopted §298.220 states that each season is independent of the preceding and subsequent seasons with respect to high flow pulses. The subsistence and base flow standards are based on the flow conditions in the stream at the time a water right owner diverts water. To the extent that monthly values for these flow components are different in different months, the water right owner would only be able to divert if the flow requirement for that month is met. The commission notes that the adopted rule was modified in response to other comments, which should clarify this issue. The changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

LGRT suggests that §298.220 needs to reflect the following: given that subsistence flows are based on the median of the lowest 10th percentile of base flows, the proposed subsistence flows should not be considered the minimum required flow when site-specific data can be provided, or as better science is secured.

The commission respectfully disagrees that site-specific data can be used for permitting. TWC, §11.147(e-3), expressly states that: "Notwithstanding Subsections (b) - (e), for the purpose of determining the environmental flow conditions necessary

EXHIBIT 1

to maintain freshwater inflows to an affected bay and estuary system, existing instream uses and water quality of a stream or river, or fish and wildlife habitats, the commission shall apply any applicable environmental flow standard, including any environmental flow set aside, adopted under TWC, §11.1471, instead of considering the factors specified by those subsections." Subsections (b) - (e) are the statutes regulating how the commission protected the environment prior to HB 3/SB 3. It is clear that the bill and TWC, §11.147(e-3), meant for the commission to place any environmental flow standards determined under TWC, §11.1471, in a permit for new water instead of using these other statutes and site-specific data. Under TWC, §11.1471(d), all new appropriations or increases in the storage, taking, or diversion of water issued after an environmental flow standard is adopted must contain the standard. The commission agrees that further data may be developed. However, HB 3/SB 3 contemplate that this new data and new studies will be considered through adaptive management. The rule was not modified in response to this comment.

LGRT requests further clarification in proposed §298.220 on how the executive director will implement pulse flows in evaluating applications when the WAM is based on a monthly time-step and how pulses will be addressed over a period of days when the executive director evaluates applications subject to the rules. LGRT comments that the rules need to clarify that, once pulse requirements for a season are met, no additional passage of pulse flows is required and water rights holders may immediately divert flows greater than the subsistence flow.

The SAC guidance document "Consideration of Methods for Evaluating Interrelationships Between Recommended SB-3 Environmental Flow Regimes and Proposed Water Supply Projects" notes that the monthly WAM is "recognized as the superior method with regard to effectively representing both water availability, consistent with the way TCEQ would evaluate a permit application, and e-flow requirements in the same analysis." For future applications for new appropriations of water, the commission will use the TCEQ WAM. Individual permit applications are different; therefore, special conditions may need to vary for those permits. The commission will implement these standards in each permit granted for a new appropriation of water. At this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits.

A water right holder can divert or store water subject to special conditions in its permit. Once a pulse requirement is met, a water right holder may divert flows greater than the subsistence or base flows, depending on which flow requirement applies. No change was made in response to this comment. The commission notes that rule was modified in response to other comments. The changes can be found in §298.220(d)(1).

LGRT suggests that the rules need to reflect that the conditions for diversion are met when the flow regimes are 95% established, whether they be related to the duration or the volume of flows. This flexibility is needed in order to incorporate potential variances in hydrological conditions and the reliability of flow gage measuring equipment.

The commission acknowledges measurement devices may have varying degrees of accuracy. However, USGS gages are the best available tool to determine compliance with the standards. The rule has specific values which must be fully met at specified locations. The rules have not been modified in response to these comments.

NWF/LSCSC and NWFSCRC suggest replacing "base flow" with "three levels of base flow" in the first sentence of §298.220(a). Multiple levels of base flow are needed in order to provide a level of protection adequate to support a sound ecological environment to the maximum extent reasonable.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission also considered staff's water availability analyses on the adopted standards. The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of base flow, at the specific levels proposed by the commenters, in this basin and bay system. The commission also considered human and other competing needs for water in developing the adopted standards. Therefore, the commission is adopting a simplified flow regime. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient flow variability. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

NWF/LSCSC and NWFSCRC suggest replacing "one level of high flow pulses" to "two levels of high flow pulses" in the first sentence of §298.220(a). Two levels of pulse flows are needed in order to provide a level of protection adequate to support a sound ecological environment to the maximum extent reasonable.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission also considered staff's water availability analyses on the adopted standards. The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of pulse flows, at the specific levels proposed by the commenters, in this basin and bay system. The commission also considered human and other competing needs for water in developing the adopted standards. Therefore, the commission is adopting a simplified flow regime. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient flow variability. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

NWF/LSCSC and NWFSCRC suggest replacing "six separate measurement locations" with "ten separate measurement locations plus evaluation points for Galveston Bay inflows" in the second sentence of §298.220(a). A total of six measurement locations in the extensive Trinity and San Jacinto basins simply is not sufficient to provide for an adequately protective environ-

EXHIBIT 1

mental flow standard. Consistent with the recommendations of the regime group of the BBEST, as simplified and modified by a subset of the BBASC, ten measurement points should be provided. One measurement point considered by the regime group, Elm Fork Trinity River near Carrollton, should not be used based on determinations, as reflected in stakeholder committee determinations, that alterations to the system at, and upstream of, that location make it inappropriate. There has been no showing that ten measurement points are excessive or that there are specific factors justifying exclusion of those additional measurement points. This provision should also acknowledge the role of evaluation points for Galveston Bay inflows.

The commission respectfully disagrees with the comment. The number of measurement points in the adopted rule is adequate because it reflects the geographic scope of the basin and bay systems by representing the major watersheds in the basin. The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission also considered staff's water availability analyses on the adopted standards. The rule was not modified in response to this comment.

NWF/LSCSC and NWFSCRC suggest replacing "in §298.230 of this title (relating to Water Right Permit Conditions)" with "in §298.225 of this title (relating to Environmental Flow Standards)" in the second sentence of §298.220(a).

The commission agrees, and §298.220(a) was modified to incorporate the wording in this comment.

NWF/LSCSC and NWFSCRC suggest inserting the word "applicable" into the first sentence of §298.220(b), modifying the sentence to read as follows: "(b) Subsistence flow. For a water right holder . . . unless the flow at the measurement point is above the applicable subsistence flow standard for that point."

The commission agrees, and §298.220(b) was modified in response to this comment.

NWF/LSCSC and NWFSCRC suggest changing the second sentence in §298.220(b) to read as follows: "During low hydrologic conditions, if the flow at the measurement point . . . ."

The adopted flow standards in §298.225 only include one level of base flows; therefore, there is no need to include hydrologic conditions. The rules were not changed in response to this comment.

NWF/LSCSC and NWFSCRC note that the proposed §298.220 does not describe how the determination is to be made about whether a measurement point "applies to the water right" and suggest adding the following sentence to the end of this paragraph: "Permit conditions will be imposed, as appropriate, to establish individual permit subsistence flow values, based on a watershed area basis, in order to ensure that flows immediately below the diversion or storage point are adequately protected consistent with applicable flow standards."

The commission agrees, in part, with this comment. For subsistence flows, a watershed area ratio may be appropriate. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission needs the flexibility to examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

LGRT notes that §298.220(b) - (d) each includes provisions restricting an appropriator's right to store or divert water pursuant to its impoundment rights until certain hydrologic events have occurred, i.e., the subsistence requirement (§298.220(b)), the base flow requirement (§298.220(c)), or the pulse flow requirements (§298.220(d)) have each been met. LGRT comments that it should be made clear in these rules that an appropriator that has lawfully stored inflows pursuant to its water right, and in compliance with whatever environmental flow standard, regime, or requirement existed at the time of such storage, may lawfully divert water from storage, even when an environmental flow standard adopted pursuant to the rules would not allow the appropriator to store or divert inflows during such time period.

The commission agrees and has added §298.220(e) to the adopted rule in response to this comment.

NWF/LSCSC and NWFSCRC comment that the proposed §298.220(c) only includes one level of base flows, and those are extremely low. This single level of extremely low base flows does not provide for protection of inter-annual fluctuations in flow levels as required to constitute and environmental flow regime. NWF/LSCSC and NWFSCRC suggest changing §298.220(c) to read as follows: "The applicable base flow standard varies depending on the seasons and on hydrological conditions as described in Subsection (e) of this section. For a water right holder . . . the water right is subject to the base flow standard for the hydrologic condition prevailing at that time, i.e., the water right will be subject to either: a low base flow; a medium base flow; or a high base flow standard."

Adopted §298.220 and §298.225 only include one level of base flows. The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of base flow, at the specific levels proposed by the commenters, in this basin and bay system. The commission also considered human and other competing needs for water in developing the adopted standards. Therefore, the commission is adopting a simplified flow regime. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient flow variability. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. Therefore, hydrologic conditions are not included. The rules were not changed in response to this comment.

NWF/LSCSC and NWFSCRC comment that the proposed language in §298.220 seems to indicate that all permit conditions would be tied directly to flows at the listed measurement points and suggest adding the following sentence to the end of §298.220(c): "Permit conditions will be imposed, as appropriate, to establish individual permit base flow values, normally calculated on a watershed area basis, in order to ensure that flows immediately below the diversion or storage point are adequately protected consistent with applicable flow standards." This additional sentence also acknowledges TCEQ's authority to establish specific permit conditions in order to protect tributaries and long stretches of river from undue damage as a result of distance from an applicable measurement point, or other special circumstances.

The commission agrees, in part, with this comment. For base flows, a watershed area ratio may be appropriate. The com-

EXHIBIT 1

mission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission needs flexibility to examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

ANRA and FNI suggest that language be added to §298.220 that specifically states that when the pulse criteria for the season have been met, no additional pulses are required and the water right holder does not have to cease diversions if a pulse trigger occurs.

Adopted §298.220(d)(3) states that each season is independent of the preceding and subsequent seasons with respect to high flow pulses. The commission believes that this provision is adequate to convey that no catch up is required. A water right can divert or store water subject to special conditions in their permit. Once a pulse requirement is met, a water right can divert flows greater than the subsistence or base flows, depending on which flow requirement applies. The rule was not modified in response to this comment.

NWF/LSCSC and NWFSCRC suggest changing the semicolon in §298.220(d) after "short-duration" to a comma.

The commission agrees, and adopted §298.220(d) reflects this change.

NWF/LSCSC and NWFSCRC suggest changing the first sentence of §298.220(d)(1) to read as follows: "Two smaller-magnitude pulses per season are to be passed . . . if the applicable peak flow trigger level is met at the measurement point that applies to the water right."

The adopted rules only include one level of high flow pulses, so the rule need not distinguish between large and small pulses. Multiple measurement points may apply to a water right depending on the geographic scope of a particular water right application, therefore the adopted rule should be flexible enough to accommodate this situation. The rules were not changed in response to this comment.

NWFSCRC proposes adding language to the second sentence of §298.220(d)(1), so it reads as follows: "The water right holder shall not divert or store water, except during times that flows immediately downstream equal or exceed the applicable pulse flow trigger rate, until either the volume amount has passed . . . ." This language would allow a water right holder subject to the flow standard to divert or impound water during a pulse event if the flow immediately downstream of the diversion or impoundment equals or exceeds the applicable pulse flow trigger amount. This seems consistent with the commission's intent in establishing pulse flow requirements.

The commission agrees and §298.220(d)(1) has been modified to reflect this comment.

NWF/LSCSC and NWFSCRC comment that pulse flow protection also would suffer as a result of the time-lag effect and the tributary-stream effect unless language is added to make clear that TCEQ normally would be establishing permit-specific conditions to implement environmental flow standards and suggest adding the following sentence to the end of §298.220(d)(1): "Permit conditions will be imposed, as appropriate, to establish individual permit pulse flow values, normally calculated on a watershed area basis, in order to ensure that flows immediately below the diversion or storage point are adequately protected consistent with applicable flow standards."

The commission respectfully disagrees with this comment. Although it is possible that a watershed area basis may be appropriate for subsistence or base flows, time lag effects and tributary stream effects would make this method inappropriate for translating pulse flow conditions to other points in the watershed. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission needs flexibility and will examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

TRA states its understanding that flow volume and duration targets for pulses are defined as starting when the peak flow trigger is met, regardless of when a change in stage first occurred and comments that this accounting method can significantly underestimate the actual amount of water that has passed a given location and/or the duration of a rise event. It is more appropriate to calculate pulse flow volumes and durations from the beginning of a rising hydrograph, provided the peak flow target is eventually met. TRA therefore suggests that the last sentence be deleted from proposed §298.220(d)(1), that is: "The water right holder shall not divert or store water until either the volume amount has passed the measurement point or the duration time has passed since the peak flow trigger rate occurred." Similar language, including a process for determining the beginning and end of a pulse, can be included in permit special conditions.

The commission agrees that determining whether a water right is in compliance with the terms and conditions of its permit should be considered based on the specific facts in an application. However, the adopted rule has specific values which must be met at specified locations. Variations in methods for calculating pulses would not allow the commission to consistently apply the standards in a permit. The rule was not modified in response to this comment.

BRA comments that the last sentence of §298.220(d)(1) "The water right holder shall not divert or store water until either the volume amount has passed the measurement point or the duration time has passed since the peak flow trigger rate occurred" imposes a condition inconsistent with the development of the hydrologic statistics that may result in an imbalance in the environment and water supply. It also imposes a condition that does not exist in nature. In many cases a water supply diversion would have minimal impact on the characteristics and ecological functions of a pulse, and curtailment of that diversion would not truly enhance the environment. It is recommended that diversions should not be curtailed but regulated during a high flow pulse. Several ideas that may be used to regulate diversions during a high flow pulse event include: 1) apply a diversion rate limit based on percent impact to the pulse; 2) apply a "diversion rate threshold" to establish a constant diversion rate limit during pulses; and 3) allow diversion limited to the difference between the actual peak discharge of the pulse and the high flow pulse criteria. Lastly, since statistics used to define the pulse days and pulse volume were based on the entire pulse, from start to finish and not from peak to finish, it is recommended that: 1) the water right holder be allowed to divert once the volume and the peak or the duration and the peak are met from the beginning of the high flow pulse event; or 2) recalculate the volume and duration flow recommendations beginning at the peak of the high flow pulse.

The commission acknowledges the comment. These are interesting concepts that future science teams may want to consider and the science team for this basin may also want to consider

EXHIBIT 1

as it studies conditions in the basins for the next round of recommendations under adaptive management. The commission considered the recommendations of the science team and stakeholders for the basin and bay systems. The adopted rule was based in part on the specific recommendations of the expert science team. The comments to the proposed rule provided by the stakeholder group in this area did not make changes to the science team recommendation. While other methods to implement and manage high flow pulse requirements may be recommended in other areas, these rules were not modified in response to this comment.

BRA comments that it is beneficial to state that a water right holder is not required to produce a pulse from storage and that pulses occur because of high rainfall events. This statement as currently drafted in proposed §298.220(d)(2) adds clarity to the expectation on the actions required for meeting pulse requirements. No change to this language is recommended.

The commission acknowledges this comment. With the minor exception of changing the term "peak flow" to "high flow pulse," the commission did not change the provision in §298.220(d)(2).

NWF/LSCSC and NWFSCRC suggest changing the first sentence of §298.220(d)(2), so it reads as follows: "If an applicable peak flow trigger rate . . . ."

The commission agrees, and adopted §298.220(d)(2) was modified to add the word "applicable." The commission notes that in response to other comments, the term "peak flow" was replaced with the term "high flow pulse" in §298.220(d)(2).

NWF/LSCSC and NWFSCRC note that proposed §298.220 includes protection for only a single level of extremely small pulse flows, which, even with the requirement to pass two such pulses per season, is simply not adequate to perform the full suite of functions for which adequate pulse flows are needed. An additional level of larger pulse flows should be included in the Winter and Spring seasons during normal and high hydrologic conditions in order to protect critical aspects of the flow regime. No higher level pulses are suggested during low hydrologic conditions in order to help minimize potential impacts on potential water supply projects. NWF/LSCSC and NWFSCRC recommend §298.220(d) reads as follows: "In addition, one larger-magnitude pulse per season is to be passed (i.e., no storage or diversion by an applicable water right holder) if the applicable hydrologic condition is medium or high, if the flows are above the applicable base flow standards and if the peak flow trigger level is met at the measurement point. The water right holder shall not divert or store water until either the volume amount has passed the measurement point or the duration time has passed since the peak flow trigger rate occurred. Permit conditions will be imposed, as appropriate, to establish individual permit pulse flow values, normally calculated on a watershed area basis, in order to ensure that flows immediately below the diversion or storage point are adequately protected consistent with applicable flow standards."

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission also considered staff's water availability analyses on the adopted standards. The commission applied balancing in formulating the rules. Commission staff used the WAM to determine the impact of the adopted standards on a future water use scenario and found that there would be no significant impact from implementation of the adopted standards. The rule was not modified in response to this comment to include hydrologic conditions or additional levels of high flow pulses. The commission did adopt changes to the proposed rule and these changes are discussed in the adoption preamble in §298.220 and §298.225. The modified numerical values can be found in the adopted standards in §298.225.

NWF/LSCSC and NWFSCRC suggest deleting §298.220(d)(3).

The commission considered all of the comments and alternate proposals submitted in response to the proposed rules. The commission modified the seasonal distribution of high flow pulses in the adopted rule and therefore agrees that this paragraph can be deleted. The specific changes are discussed in the adoption preamble for §298.220.

BRA notes that the importance of the concept of seasonality is recognized considering a linkage between flow and ecology is established and agrees, as stated, that there should be no requirement for carry-over of pulse requirements from one season to another, if the previous season did not meet its pulse minimum. Trying to "catch up" in the summer quarter for a missed pulse in the Spring quarter will do little to help aquatic species. This "catch-up" issue is discussed in the Background and Summary of the proposed rules but is not clearly articulated in §298.220(d)(4). It is recommended that language in this section be clarified to articulate that there is no need for "catch-up" if the mandated pulses are not observed in one season.

The adopted rules for this basin and bay system state in §298.220(d)(3) that each season is independent of the preceding and subsequent seasons with respect to high flow pulses. This provision is adequate to convey that no catch up is required. As stated in the preamble, if, in a particular season, only one of the high flow pulses identified in the adopted rule is generated, then there would be no need to "catch up" or allow more than two high flow pulses to pass in the following season. The rule was not modified in response to this comment.

NWF/LSCSC and NWFSCRC suggest modifying the language in proposed §298.220(d)(4) to read as follows: "With the exception of summer and fall, which are treated as a single season for purposes of pulse flow compliance, each season is independent of the preceding and subsequent seasons with respect to high flow pulse frequency."

The commission modified the seasonal distribution of high flow pulses in the adopted rule, and this suggested change is consistent with those modifications. The specific changes are discussed in the adoption preamble for §298.220.

NWF/LSCSC and NWFSCRC suggest adding §298.220(e) and a new figure in §298.220(e) - *Reservoirs and Storage Volumes for Calculating Hydrologic Conditions for Measurement Points in the Trinity and San Jacinto River Basins, including Buffalo Bayou and Brays Bayou.* The suggested language for §298.220(e) is as follows: "The determination of the hydrologic condition for a particular season shall be determined once per season. The conditions present on the last day of the month of the preceding season will determine the hydrologic condition for the following season. For each measurement point specified in this subsection, the cumulative storage in the major reservoirs located upstream of that measurement point will determine the hydrologic condition. Measurement points, associated reservoirs to be used in determining hydrologic condition, and storage levels and conditions are:" This new subsection and figure should be added to establish a methodology for determining hydrologic

EXHIBIT 1

condition in order to implement the needed multi-level base flow and pulse flow components of a protective flow standard. In order to achieve consistency across basins, this methodology is very similar to that proposed in Subchapter C for the Sabine and Neches Rivers and Sabine Lake Bay.

The adopted rules only include one level of base flows; therefore, there is no need to include hydrologic conditions. The commission does not want to limit the ability of future stakeholder and expert science groups to define basin specific implementation scenarios in their future, location-specific recommendations. The rules were not changed in response to this comment.

§298.225, Environmental Flow Standards

WW comments that the environmental flow standards for the Trinity and San Jacinto Rivers and Galveston Bay may impose a reasonable environmental flow regime, consistent with the scientific limitations of the data. Because the scientific data does not make the necessary correlation between seasonal stream flows and aquatic life viability, an overly complex environmental flow regime is not called for. Moreover, the ability of TCEQ and water rights holders to administer the environmental flow standards also has to be taken into account and argues for the more basic environmental flow standards.

The commission acknowledges the comment. The commission also notes that the specific numerical flow values for the flow components in adopted §298.225 have been modified in response to other comments on the proposed standards. The changes are discussed in the adoption preamble for §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

Espey and LGRT comment that historically, the system has experienced flows lower than the subsistence flow amounts, yet has remained ecologically sound. While setting subsistence flows in §298.225 as a floor is a more readily implementable criterion, it creates a criterion with no environmental justification. It is suggested that subsistence flow criteria be evaluated with the frequencies recommended by the majority of stakeholders.

The commission responds that in the absence of additional scientific evidence that allowing diversions below the subsistence level would be sufficiently protective of the environment, the subsistence flows in the adopted rule are a floor below which diversions should not occur. Further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are adequate to protect the river during low flow times. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations.

The commission also notes that the specific numerical flow values for the flow components in the adopted rule have been modified in response to other comments on the proposed standards. The changes are discussed in the adoption preamble for §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225. The rule was not modified in response to this comment.

Foodways Texas and five individuals comment that the proposed flow levels of the Trinity and San Jacinto Rivers in §298.225 are inadequate and should be increased to ensure that Galveston Bay receives sufficient freshwater, particularly during times of drought.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules and balanced the interests listed in the statutes. The commission modified adopted §298.225 to include a seasonal component for inflows to Galveston Bay. These changes are discussed in the adoption preamble in §298.225 and the modified numerical values can be found in the adopted standard for this section.

TPWD comments that the proposed subsistence flows in §298.225 represent quantities that are lower than much of the recorded historical streamflows over the past forty years. These flows are lower than those where water quality data have been collected and thus have very limited water quality justification. For these basins, TPWD supports the Regime group's use of the 5th percentile of flows for subsistence levels. TPWD also supports the subsistence flows proposed in the alternate recommendations by NWF and Sierra Club, which are nearly identical.

Commission staff performed a water quality analysis on the standards. The water quality analysis considered the relationship between streamflow and the water quality parameters identified by the science team to look for trends and criteria excursions. This analysis did not identify any areas of concern. There is less data available at lower flow levels, and this issue may be addressed in the workplan. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in adopted §298.225. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

BAHEP, BLC, CCA Texas, GBF, Sierra Club-Houston, and more than ten individuals comment that the base and subsistence target flows in §298.225 are extremely low, far below the historical flows, and would greatly jeopardize the rivers and tributaries' living species and water quality.

Commission staff performed a water quality analysis on the standards in §298.225. The water quality analysis considered the relationship between streamflow and the water quality parameters identified by the science team to look for trends and criteria excursions. This analysis did not identify any areas of concern. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in adopted §298.225.

BAHEP, BLC, CCA Texas, GBF, Sierra Club-Houston, and more than ten individuals comment that the pending proposal does not contain base flow targets in §298.225 that would provide the natural variability required to sustain an ecologically sound riverine environment.

The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of base flow in this basin and bay system. The commission also considered human and other competing needs for water in developing the adopted standards. Therefore, the commission is adopting a simplified flow regime. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented,

EXHIBIT 1

are providing sufficient flow variability. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule, although the adopted rule only includes one level of base flows that vary seasonally. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

Sierra Club-Lone Star comments that the base river flow standards in the Trinity that are being proposed in §298.225 have been exceeded approximately 95% of the time during the historical record and suggests that any set of standards that is so low that historically they have been 95% of the time simply does not indicate a protective enough level to maintain a sound ecological environment.

Commission staff performed a water quality analysis on the standards. The water quality analysis considered the relationship between streamflow and the water quality parameters identified by the science team to look for trends and criteria excursions. This analysis did not identify any areas of concern. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards for §298.225.

TPWD comments that the proposed base flow standards in §298.225 lack any inter-annual variability and thus do not depend on weather conditions as specified in §298.1(1), where a "base flow" is defined as "the range of average flow conditions, in the absence of significant rainfall events that may vary depending on current weather patterns."

The definition of "Base flow" in adopted §298.1(2) is not intended to prescribe multiple levels of base flows. It is intended to reflect that base flows are neither the highest not the lowest flows in the river. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

NWF comments that the proposed standards in §298.225 for the Trinity and San Jacinto basins and Galveston Bay do not capture the inter-annual variations in the instream flow standards.

In response to other comments, the commission modified some of the specific numerical values for the flow components in adopted §298.225. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225. The commission notes that further analyses and studies may be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient inter annual variability. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan. No change was made in response to this comment.

TPWD notes that the listed base flows are far below "average flow conditions" as specified in the definition of "Base flows" in §298.1. The proposed base flow standards represent not average conditions but exceedingly low flow conditions when compared to contemporary hydrology. Even when compared to the "early" period of record upon which they were developed, the proposed base flows approach the 10th percentile of all "early period" flows. This is far below any reasonable interpretation of "average." TPWD continues to support the Regime group recommendations which included three levels of base flows at each of the control points in the Trinity and San Jacinto basins. At the present time, TPWD also supports the alternate rules proposed by NWF/Sierra Club, which include similar flow magnitudes, albeit generally at reduced frequencies. Various levels of base flows are an important ecological component of a flow regime in order to provide instream habitat diversity through time to support Texas' rich aquatic communities. By specifying one base level, the proposed rules do not provide a diversity of habitat conditions needed to maintain a "sound ecological environment" as defined by §298.205(3).

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of base flow, at the specific flow levels included in the alternate recommendation, in this basin and bay system. The commission also considered human and other competing needs for water in developing the adopted standards. Therefore, the commission is adopting a simplified flow regime. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient flow variability. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values in for the flow components in adopted §298.225 to reflect those in the alternate recommendation, plus an increase in the base flow values in the San Jacinto Basin. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

BAHEP, BLC, CCA Texas, GBF, Sierra Club-Houston, and more than ten individuals comment that the pending proposal does not provide suitable high flow pulse targets in §298.225 that are necessary for life cycle histories of many riverine species, channel maintenance, and sediment transport.

The commission considered all of the comments and alternate proposals submitted in response to the proposed rules. The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of pulse flows in §298.225 in this basin and bay system. Therefore, the commission is adopting a simplified flow regime. The commis-

EXHIBIT 1

sion also considered human and other competing needs for water in developing the adopted standards. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing the ecological functions the commenter describes. HB 3/SB contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. No change was made in response to this comment. In response to other comments, the commission modified the numerical values and seasonal distribution of high flow pulses in adopted §298.225 to reflect those in the alternate recommendation. The specific changes are discussed in the adoption preamble in §298.220 and §298.225.

TPWD comments that the schedule of high flow pulses in the proposed rules is inadequate to protect a sound ecological environment. The proposed rules only provide for two small pulses per season. The pulses in the proposed rules are a very small subset of historically observed events. Concerns remain that the proposed schedule of flow pulses does not provide adequate flow variability and maintenance of critical ecological functions. Although key characteristics of the high flow pulse schedule are lower than the majority BBEST recommendations, TPWD endorses the schedule of high flow pulses included in the alternate rules proposed by NWF/Sierra Club. From an implementation perspective, if a large high flow pulse occurs in a season, then it would also count as one of the two required small high flow pulses.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. The commission is not convinced that there is sufficient existing scientific evidence to support the need for multiple levels of pulse flows, at the specific flow levels included in the alternate recommendation, in this basin and bay system. The commission also considered human and other competing needs for water in developing the adopted standards in §298.225. Therefore, the commission is adopting a simplified flow regime. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient flow variability and maintaining the ecological functions the commenter describes. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. No change was made in response to this comment. In response to other comments, the commission modified the numerical values and seasonal distribution of high flow pulses in adopted §298.225 to reflect those in the alternate recommendation. These changes are discussed in the adoption preamble in §298.220 and §298.225.

BAHEP, BLC, CCA Texas, GBF, Sierra Club-Houston, and more than ten individuals comment that as there are only six flow measurement points in §298.225 where environmental flow standards are established, this proposal does not provide geographic coverage necessary to protect riverine environments. USFWS similarly comments that there is no justification for TCEQ choosing to use only six gage locations for proposing the standards. The Trinity BBEST Regime report used 11 gage locations and the Trinity BBASC Regime report used 10 gage locations. USFWS recommends the use of as many gage locations as is required to fully characterize the basin. USFWS comments that it would be prudent to include a wider set of data sources and information points at the onset of a process and winnow the extraneous information moving forward through the process. USFWS also encourages the use of tributaries in setting the standards.

TPWD comments that the proposed measurement points in §298.225 lack the geographic scope to adequately protect flows in the Trinity and San Jacinto River Basins. Four measurement points in the Trinity River Basin and two in the San Jacinto River Basin are simply too few to address the nearly 23,000 square miles of drainage area in these basins. At a minimum, TPWD suggests including the recommended measurement points in the alternative set of rules proposed by the National Wildlife Federation and Sierra Club-Lone Star, which provide greater geographic coverage for the basins.

The commission respectfully disagrees with this comment. The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The number of measurement points in the adopted rule represents a balance between the two recommendations of the stakeholder group. The measurement points reflect the geographic scope of the basin and bay system because they represent the major watersheds in the basin. The rule was not modified in response to this comment.

BLC comments that the proposed environmental flows in §298.225 do not provide for a flow regime that would preserve wetland functional values in conservation easements set aside as mitigation for loss due to development and as compensation for natural resource damages due to hazardous substance releases. This will result in a net loss of functional values to the public trust.

The standards in §298.225 prescribe a flow regime for maintenance of a sound ecological environment and will be applied to applications for new appropriations of water. The commission notes that further analyses and studies may be performed in the future to determine whether the adopted standards, once implemented, are maintaining a sound ecological environment. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan. No change was made in response to this comment.

Environmental Stewardship and one individual comment that the weak and limited standard in §298.225 sets a dangerous precedent for current and future stakeholder committees and expert science teams.

The commission respectfully disagrees that these standards impact future rule proposals. Future rule proposals in other basin and bay systems will be based on recommendations made by the science teams and stakeholders for those basin and bay systems and adaptive management. No change was made in response to this comment.

One individual comments that the proposed standards lack scientific studies.

EXHIBIT 1

The commission notes that the recommendations of the science teams are based on reasonably available science. The commission relied, in part, on the recommendations of the science team in formulating the standards. The commission notes that further analyses and studies may be performed in the future. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan. No change was made in response to this comment.

One individual comments that all one needs to do is study the file on the San Bernard River and the effects that the Freeport and Quintana jetties have had on this body of water's flow to the Gulf. It is open now after spending millions to clear the sediment. Five years from now we will be facing the same closure of flow and its effects. Also consider the Rio Grande Valley where that river no longer flows into the Gulf and look at the millions of dollars that are lost to the area's economies because of this man-made situation of Mexico building numerous dams to steal the water.

The commission notes that further analyses and studies may be performed in the future to determine whether the adopted standards, once implemented, are maintaining a sound ecological environment. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan. No change was made in response to this comment.

One individual comments that the proposed rule is significantly deficient in that it does not provide specific protections for average and wet hydrologic conditions. A cursory comparison of the flows recommended by TCEQ and the basin stakeholders group shows the rule based flows to be in the "ball park" of the stakeholders dry base flows recommendations at Romayor on the Trinity River. A comparison of subsistence flows shows the flows recommended in the rule to be about 50% of the flows the stakeholders recommended for the Winter and Spring seasons. The stakeholder group offered base flows for dry, average, and wet conditions. In fact, the proposed rule for the Neches and Sabine basin uses the same approach (dry, average, wet). It seems as if the rule for the Trinity runs counter to the guiding principle for establishing environmental flows. If left in this form, the ongoing work in other basins would suffer from a sense of futility that would be introduced into the process.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The adopted rule represents a balance between the two recommendations of the stakeholder group. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

One individual who participated as a member of the Trinity/San Jacinto River and Galveston Bay Stakeholder Group comments that the recommended flows standards do not conform to the recommendations of either report of the BBEST, the standards in the Region H Water Plan, the recommendations of the SAC, or TPWD.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The adopted rule represents a balance between the two recommendations of the stakeholder group. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

TRA comments that the proposed standards in §298.225 include more gages and flow components than recommended by the conditional group of expert scientists and the majority of stakeholders. TRA recommends that all instream flow requirements §298.225(d)(1) and (2) applicable to the Grand Prairie and Dallas gages be removed from the proposed standards.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The number of measurement points in the adopted rule represents a balance between the two recommendations of the stakeholder group. The measurement points reflect the geographic scope of the basin and bay system because they represent the major watersheds in the basin. The rule was not modified in response to this comment.

TRA recommends that volumetric pulse-flow requirements at the Oakwood and Romayor gages in §298.225(d)(3) and (4) be removed from the proposed rules.

Pulse flows are important to maintain aquatic habitat and other ecosystem functions in the river. The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The rule was not modified in response to this comment.

TRA agrees with TCEQ's decision to not propose environmental flow set asides for the Trinity and San Jacinto Rivers and that using existing authority will maximize water availability while protecting instream uses.

The commission acknowledges this comment.

BLC comments that less water in the Trinity and San Jacinto Rivers would be detrimental to the number and diversity of macroinvertebrates, and this would in turn affect the birds migrating through Texas. Macroinvertebrates are also bio-indicators; their presence or lack thereof is an indicator of water quality. With less water in the waterways, pollution will be more concentrated and the diversity of small organisms we find in these waterways will disappear along with the adult insects most of them metamorphose into. Please consider the needs of the organisms that live in these waterways when looking at flow rates in the Trinity and San Jacinto Rivers. They are a small but vital part of the web of life in our region. Without them, or even with fewer of them, we stand to lose birds and other fauna that live in and stop in Texas.

The recommendations of the science teams are based on reasonably available science. The commission relied, in part, on the recommendations of the science team in formulating the

EXHIBIT 1

standards in §298.225. The environmental flows process under HB 3/SB 3 has an adaptive management component which may consider additional science, as it becomes available, to develop future science team and stakeholder recommendations. No change was made in response to this comment.

BLC requests the TCEQ to consider flow rates in §298.225 that more accurately reflect the natural flow of these rivers.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

BLC comments that it holds five conservation easements with frontage on the San Jacinto or East Fork San Jacinto Rivers and that it has contractual agreements with the U.S. Army Corps of Engineers, county governments, and local private landowners to uphold the conservation values of these 8,500 acres. Reducing the hydrological flow to the riverine and palustrine wetlands would cause detriment to the sustainability of these fragile ecosystems and will violate these conservation easements. In addition, since the proposed environmental flows do not provide for a flow regime that would preserve the functional values of the wetlands, the result may be a net loss of functional value to the public trust. All of these tracts were set aside in perpetuity for the water-quality buffering that the wetlands provide as well as for the general public benefits of floodway and floodplain protection and for the wildlife value that they provide to offset the impacts on other lands. Having the San Jacinto continue to flow, at significant levels, adjacent to these lands is imperative in order to maintain the conservation values that were set aside for the public good. The habitat connectivity that BLC helps provide in relation to this riparian corridor is equally important to bobcats, white-tailed deer, and the diminishing amphibian and freshwater mussel species that need this water in these waterways.

The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The recommendations of the science teams are based on reasonably available science. The commission relied, in part, on the recommendations of the science team in formulating the standards. The environmental flows process under HB 3/SB 3 has an adaptive management component which may consider additional science, as it becomes available, to develop future science team and stakeholder recommendations. No changes were made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

BPA comments that freshwater instream uses through the bayous, streams, and rivers, and freshwater inflows into Galveston Bay are an important resource to preserve for the local ecosystem and economic welfare. Failing to secure this resource will result in the collapse of habitats and would cause serious damage to the tourism, fisheries, and economic systems that depend on healthy coastal waterways. The proposed rule does not provide sufficient critical detail on flow timing across the seasons and across the area, to maintain the balance needed to support the current habitats, ecosystems, and economy.

The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The recommendations of the science teams are based on reasonably available science. The commission relied, in part, on the recommendations of the science team in formulating the standards. The environmental flows process under HB 3/SB 3 has an adaptive management component which may consider additional science, as it becomes available, to develop future science team and stakeholder recommendations. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

BPA recommends the establishment of environmental flow standards for instream flows in §298.225 that consist of several flow components that define the needed flows in greater detail across the seasons of the year and across the geographic area.

The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The adopted rule includes flows that vary across the seasons and are measured at specific points in the basin. No change was made in response to this comment. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

USFWS comments that a comparison of the proposed subsistence flow standards in §298.225 to information from the USGS gages demonstrates that the proposed standards are extremely low values compared to the data available. For example, the proposed subsistence standard for Romayor in §298.225(d)(4) is lower than the lowest daily mean in the period of record for most days of the year. A subsistence flow that is lower than the lowest daily mean on record is not adequate. Subsistence flows must provide minimal aquatic habitat space for survival of aquatic organisms and they are expected to occur rarely. USFWS recommends that TCEQ re-assess these values for all gages to ensure that they will maintain survival of aquatic organisms. Big Thicket supports a more robust protection of environmental flows in the Trinity and San Jacinto Rivers and Galveston Bay than have been proposed in §298.225. Subsistence and base flows for the USGS gage at Romayor in §298.225(d)(4), a short distance from where the Preserve's Menard Creek Corridor Unit meets the Trinity River, appear low and strangely constant (e.g., subsistence flow only varies from 223 cfs in summer months to 295 cfs in winter months). These subsistence and base values do not resemble a pattern of natural flow variability needed to sustain the ecological health of the river.

The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when

EXHIBIT 1

drafting the adopted rules. The flow values at this gage were based on the historical record. In response to other comments, the commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

BRA comments that although it appears to be the intent of proposed §298.225 to have diversion or storage controlled by a single downstream measurement point, the proposed rules do not clearly state this intent. It would be beneficial to define where flow standards will be enforced in relation to a "measurement point," as it may not be intuitive in all circumstances. Issues may arise when one measurement point has higher flow standards than another when either one could be used to regulate a single diversion. It is recommended that the diversion be regulated by only the nearest downstream "measurement point" since the impacts of a diversion are unlikely to significantly impact streamflow at measurement points several travel days downstream.

The measurement point that would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. Individual permit applications are different; therefore, special conditions may need to vary for those permits. No change was made in response to this comment.

TPWD recommends that TCEQ develop and apply a methodology for transferring environmental flow standards in §298.225 to upstream segments, reaches, and sites hydrologically distanced from the measurement points specified in the rules. TCEQ should consider factors related to stream size, stream order, contributing drainage area, hydrology, occurrence of species of concern and/or other factors in transferring the proposed standards to tributary and upstream locations. TPWD understands that TCEQ has initiated a research project to address this issue; however, this is an important issue that should be addressed in the current rulemaking process. Numerous approaches are available for TCEQ to consider as the default until better information is available, and TPWD is ready to assist in this effort.

The commission respectfully disagrees that this needs to be addressed in this rulemaking process. Individual permit applications are different; therefore, special conditions may need to vary for those permits. The commission will implement these standards in each permit granted for a new appropriation of water. At this point in the process the commission will examine permits as they come in to determine how to implement the standards in different permits. The commission will consider comments on this issue when processing each permit. No change was made in response to this comment.

USFWS notes that the Trinity BBEST and BBASC reports chose to use pre-1964 gage data as the basis for their recommendations. The justification is that the pre-1964 period of record is representative of a natural functional ecosystem without return flows and reservoirs. If that is indeed the case then, the statement that the basin has a currently sound ecological environment may not be supported. As an alternative, USFWS recommends that TCEQ use the gages that are available to the greatest extent possible, the entire period of record, and then isolate confounding factors such as reservoirs and existing in-channel water transfers. If return flows are not considered part of an existing water right, then TCEQ should consider them as existing flow components and available for set-asides.

The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission acknowledges that return flows, to the extent they are discharged are part of the flow in the river. At the time of adoption of this rule, the issue of how return flows should be treated in water rights permitting is an issue in a contested case pending at SOAH. The commission gave deference to the recommendations of the science teams and the stakeholders with respect to the appropriate period of record to consider in determining the adopted standards. No change was made in response to this comment.

USFWS comments that a comparison of the proposed base flow standards in §298.225 to the 25th percentile of daily mean flows for each gage demonstrates that the standard is significantly lower for the entire period of record. The 25th percentile is typically considered a low base flow indicative of dry conditions. In some cases, the proposed standard is lower than the minimum daily mean for the record (June 16 at the Oakwood gage). USFWS recommends that TCEQ re-evaluate the proposed standards so that they are more reflective of average base flows conditions, typically closer to the 50th percentile.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in the adopted rule to reflect those in an alternate recommendation, plus an increase in the base flow values in the San Jacinto Basin. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

USFWS notes that its review of aerial imagery provided by Google Earth™ and USGS data for the Romayor gage indicate that proposed pulse flow standards in §298.225(d)(4) would be insufficient to ensure connectivity with the floodplain in order to maintain characteristic vegetation communities and fish and wildlife resources dependent on those communities. Under these proposed standards many of the wetland habitats that depend on pulse flows would be placed at risk and left solely dependent on direct rainfall. Since riverine pulse flows define these ecological communities, it is extremely important that sufficient flows of appropriate intensity, duration, and volume are provided. Again, recognizing that human health and safety are paramount; the goal of HB 3/SB 3 is not to reduce the floodplain risk but to ensure that future water rights holders do not negatively affect the environment. USFWS recommends that TCEQ perform an analysis at all six gage locations as well as other gage sites to ensure that connectivity is sufficient to maintain wetland, oxbow, and slough habitats and the animal populations dependent on these habitats. An example of a species that could be used as an indicator is the alligator gar, which is dependent on access to these habitats for reproduction and juvenile development.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission acknowledges that overbank flows are a component of a flow regime for a sound ecological environment and has modified the Section by Section discussion of §298.1 in the preamble to reflect this acknowledgement. Overbank flows are a

EXHIBIT 1

result of naturally occurring large rainfall events, which will likely continue to occur. Therefore, the commission is not including overbank flows as a component of the adopted standards. The commission also notes that the recommendations of the science teams are based on reasonably available science. The commission relied, in part, on the recommendations of the science team in formulating the standards. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

Espey and LGRT recommend removal of any language relating to high flow pulses in §298.225. These were labeled as "conditional" in the Trinity and San Jacinto BBASC report because of insufficient analytical basis to include them as recommendations but as appropriate subjects for further study.

Pulse flows are important to maintain aquatic habitat and other ecosystem functions in the river. The commission followed its instructions in TWC, §11.1471, to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. Including one level of pulses in the adopted rule represents a balance between the two recommendations of the stakeholder group. The rule was not modified in response to this comment.

One individual comments that if this freshwater inflow recommendation is the sole option to go forward for public comment, then the bay and its economic and quality of life values will be placed at great risk, as its target flows are not sufficient. Many jobs depend on the health of Galveston Bay. Damage to the Bay will result in loss of seafood which will negatively affect restaurants, grocery stores, and other related industries.

The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Implementation of the adopted rule was changed to conform to the modifications and incorporates parts of this comment. The specific changes are discussed in the adoption preamble in §298.225, and the specific numerical values and implementation aspects can be found in the adopted standards for §298.225(a).

NWF/LSCSC and NWFSCRC suggest replacing §298.225(a) with the following language: "A water right application in the Trinity or San Jacinto river basins, which increases the amount of water authorized to be stored, taken, or diverted as described in §298.10 of this title (relating to Applicability), shall not cause or contribute to a failure to achieve the listed attainment frequencies, on either a seasonal or annual basis, for the listed volumes of freshwater inflows when evaluated over the period of record for the relevant water availability model. When assessing attainment frequency achievement under this subsection, inflows are evaluated at an evaluation point just above the Galveston Bay system and the listed attainment values are compared to all years within the evaluation period regardless of hydrologic conditions. Although acknowledged as an issue that merits consideration for future refinement, no standards are included here for coastal basins that drain to the Galveston Bay system. Accordingly, permit conditions for applications for water right permits in those coastal basins will be developed through the Commission's existing authority as described in §298.10 of this title." This text clarifies how impacts to attainment frequencies are to be assessed (by using the listed attainment frequencies as the basis for comparison and specifying the use of the period of record for the relevant WAM in undertaking the evaluation), incorporates the use of seasonal attainment frequencies, and acknowledges that standards are not being proposed for other coastal basins flowing into Galveston Bay.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows Galveston Bay. Implementation of the adopted rule was changed to conform to the modifications and incorporates parts of this comment. The commission did not receive specific numeric recommendations from the science team or stakeholders for freshwater inflows standards for these coastal basins. Therefore, the commission does not adopt freshwater inflow standards for these coastal basins at this time. Determination of these values may be addressed through adaptive management in the future. Specific changes are discussed in the adoption preamble in §298.225 and the specific numerical values and implementation aspects can be found in the adopted standards for §298.225(a).

NWF/LSCSC and NWFSCRC comment that the proposed flow standards for Galveston Bay in §298.225(a) are seriously inadequate. They fail to provide any seasonality aspect, lack any drought-level inflow amounts (an especially serious deficiency), and include unduly low attainment frequencies. In order to address the critical need to specify seasonal inflow values, to provide more appropriate attainment frequencies, both seasonal and annual, and to provide appropriate drought-period inflow values, NWF/LSCSC and NWFSCRC recommend deleting the figure in proposed §298.225(a) (Bay and Estuary Freshwater Inflow Standards for the Galveston Bay System) and replacing it with a revised figure.

The commission modified the adopted rule to include seasonal components for inflows Galveston Bay. In developing the modifications to the adopted rule, the commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission also considered staff's water availability analyses on the adopted standards. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual comments that the provision for minimum seasonal flows into the estuaries and bays fed by the Trinity and San Jacinto Rivers in §298.225(a) is inadequate and that the standard must include minimum seasonal flows adequate to sustain the marine life in Galveston Bay. Establishing only a total annual quantity of fresh water is not adequate. A minimum flow, mirroring historical seasonal flows, is necessary to sustain life in the brackish waters of Galveston Bay and its adjacent marshes. The wildlife there includes resident and migratory birds and the marine life includes shrimp, oysters, crabs and fish that are of significant commercial and recreational value to the state. Similarly, BAHEP, BLC, CCA Texas, GBF, Sierra Club-Houston, Galveston Baykeeper, and more than 20 individuals comment that instead of setting monthly and/or seasonal inflow targets based on natural rainfall patterns, the pending proposal in §298.225(a) sets only a marginally enforceable annual total. It is important to note that the proposal's annual inflow total is based upon previously derived needs estimates of TPWD, which have a clearly defined monthly pattern. Thus, TCEQ is ignoring the underlying science upon which the annual total is based; leaving the bay vulnerable to a lack of flows in months after the annual flow requirement has

EXHIBIT 1

been met. Similarly, NWF comments that the lack of seasonal distribution for the bay inflows is a big deficiency in the proposed standards in §298.225(a). Similarly, one individual comments that the figure in §298.225(a) shows a set of freshwater inflow standards for the Galveston Bay system that are not consistent with §298.210(b). Based on previous statements, one of the flow values listed for the Trinity and San Jacinto Rivers must correspond to a base flow value, which, according to §298.210(b) will vary by season and by year. In §298.220(c) it states that "The applicable base flow standard varies depending on the seasons . . . ." Freshwater inflow standards that do not incorporate seasonality do not meet the criteria established by TCEQ in this document. The freshwater inflow standards proposed for Galveston Bay must be changed to provide, at a minimum, flow levels for each of the four seasons. In particular, high flows should be protected in the spring because spawning and germination of important species depend on these pulses of freshwater. Another individual comments that TCEQ should carefully consider the recommendations for seasonal freshwater inflow values for Galveston Bay in the minority report from the BBASC as the basis for setting a standard. These recommendations, although they do not have the temporal and spatial resolution that should ultimately be incorporated in environmental flow standards, are based on carefully selected biological indicators of the impact of changes in freshwater inflow on the ecology of Galveston Bay.

The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay in part based on these comments. These changes are discussed in the adoption preamble in §298.225 and the modified numerical values can be found in the adopted standards for §298.225(a).

TPWD supports the freshwater inflow standards for Galveston Bay in the alternate rule proposed by NWF/Sierra Club. While the TCEQ proposed §298.225(a) addresses total annual inflows and achievement frequencies associated with those annual inflows, certain critical elements such as seasonal distribution of inflows are omitted. The alternate proposed rules provide seasonal inflow volume recommendations that include attainment frequencies for "drought," "medium," and "low" hydrologic conditions.

The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay in part based on these comments. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a). The commission clarifies that the alternate recommendations of NWF and Sierra Club were not TCEQ "proposed rules." They were, however, placed on the TCEQ Web site for comment.

USFWS comments that the proposed standard is not an environmental flow regime because it lacks duration and seasonality and therefore does not meet the requirements of HB 3/SB 3. It is not clear how TCEQ would apply this standard to a water right permit holder or how it might be evaluated through adaptive management. The Trinity BBASC's Regime report provides a clear and meaningful alternative environmental flow regime that meets the requirements of HB 3/SB 3. The approach provides seasonality, duration, and volume. While more information is needed to verify these inflows through adaptive management, the Trinity BBASC Regime report is based on measurable responses from biological resources in the estuary. USFWS recommends consideration of the Trinity BBASC Regime inflow recommendation as the proposed standard for Galveston Bay.

The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay in part based on this comment. The bay and estuary freshwater inflow standards will be applied to an application for a new appropriation of water as part of the water availability determination for that application. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a). The environmental flows process under HB 3/SB 3 has an adaptive management component which may consider additional science, as it becomes available, to develop future science team and stakeholder recommendations which the commission could consider in future rulemaking.

TRA supports the Galveston Bay inflows based upon annual-flow frequency-targets. These recommendations are consistent with the Region H plan under SB 1 and represent a regime in that they cover a range of flows and allow for year-to-year variation. These proposed standards are implementable during both the technical review of a new application to determine if requested flow volumes are available and during the permit drafting phase as a basis for special conditions to ensure those flow targets are met.

The commission modified adopted §298.225(a) to include seasonal components for inflows Galveston Bay in part based on this comment. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

BAHEP, BLC, CCA Texas, GBF, Sierra Club-Houston, Galveston Baykeeper, and more than 15 individuals comment that the pending proposal ignores the species-specific inflow recommendations of the majority of the basin and bay area expert science team.

The commission modified adopted §298.225(a) to include seasonal components for inflows to Galveston Bay in response to this and other comments. The freshwater inflow standards in the adopted rule represent a balance between the two recommendations of the stakeholder group. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

BAHEP, BLC, CCA Texas, Galveston Baykeeper, GBF, Sierra Club-Houston, and more than 15 individuals comment that the pending proposal leaves the bay completely unprotected when protection is most needed - during droughts. NWF comments that the issue of drought protection for the bay is a concern in the proposed standards.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified adopted §298.225(a) to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225 and the modified numerical values can be found in the adopted standards for §298.225(a).

GBF comments that with regard to freshwater inflows, it is most troubled that the standards omit the low flow criteria. This omission leaves Galveston Bay unprotected during droughts when plant and animal species in the Bay are most stressed, in particular, oysters, which are the keystone species, essentially, for Galveston Bay. Oysters are particularly sensitive to high salinity; both disease and predators attack them when salinity levels get high. If fresh water is lost, the oysters are really going to suffer.

EXHIBIT 1

GBF understands and agrees with the expert science team and the stakeholder group that man is not required to supply water that nature is not naturally providing, but the absence of a low flow criteria standard will allow the bay to get into a critical situation needlessly.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay, which may address commenters' concerns. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual comments that the proposed targets for flows (omitting low flow criteria) in §298.225(a) will cause serious damage to the bay ecosystems in the near future. This will result in major economic damage to the coastal residents who earn their living by harvesting or providing recreation in our coastal areas. Please strengthen the proposed rule.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

BAHEP, BLC, BPA, CCA Texas, Galveston Baykeeper, GBF, Sierra Club-Houston, and more than ten individuals comment that there are no criteria in §298.225(a) for inflows from coastal basin streams, which account for 18% of the flows of freshwater to Galveston Bay.

The commission acknowledges this comment. The commission also acknowledges the importance of coastal basin contributions to freshwater inflows to Galveston Bay. The commission notes that the stakeholders for this bay and basin system did not provide quantified values for the coastal basins. Therefore, the commission is not adopting standards for these coastal basins at this time. Determination of these values may be addressed through adaptive management in the future. The rule was not modified in response to this comment.

One individual comments that the proposed freshwater inflow standards to Galveston Bay in §298.225(a) are woefully below what the majority of scientists have recommended. With an expected doubling of the population in the Galveston Bay watershed over the next 40 or 50 years, these standards are placing the two largest cities on a slippery slide towards disaster. Adequate freshwater inflow is vital to Galveston Bay which is the second largest estuary system in the nation. Without proper freshwater inflow, the Galveston Bay system will face a catastrophic disaster from which it is likely to never recover.

The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

BPA comments that proposed §298.225(a) should be modified to list a minimum flow quantity with a target frequency of 90%. Lack of a specific minimum flow leaves the ecological and economic health of Galveston Bay and the waterways leading to it in jeopardy of insufficient flows.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. The freshwater inflow quantities and frequencies in the adopted rule represent a balance between the two recommendations of the stakeholder group. These changes are discussed in the adoption preamble in §298.225 and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual comments that "long-term frequency," as used in §298.225(a), is not sufficiently specific to permit scientific evaluation of the efficacy of the standards proposed for the Bay. One interpretation of long-term is another period of record equal to the period of record used in the analysis on which the values in the figure in §298.225(a) are based, i.e., 40 years. The scientists who are committed to participating in the validation and improvement of environmental flow standards in Texas, find this unsatisfactory. A reasonable period of years, e.g., five or ten, should be substituted for "long-term."

The bay and estuary freshwater inflow standards will be applied to an application for a new appropriation of water as part of the water availability determination for that application. The long-term frequency applied in this evaluation is the period of record of the applicable water availability model. No change was made in response to this comment.

Espey and LGRT note that proposed §298.225(a) asserts that a water right application " . . .shall not reduce the long-term frequency at which the following volumes of freshwater inflows occur." It is unclear how the commission has evaluated, or intends to evaluate, the "long-term" frequencies proposed for the estuarine standards. The utilization of frequencies in a recommendation must be further investigated. If such frequencies are based upon a 30-year period of record, then the resultant statistics reflect characterizations over that long of a period. In other words, a pulse experienced in ten years out of 30 years does not equate to a frequency of one out of three years. How such a frequency is to be implemented should be made clearer in the present language. It is suggested that for the evaluation of a permit application, the estuarine standard not be placed in the WAM model, but instead be evaluated via post-processing analysis of the WAM results, to determine if the annual standards are exceeded at the appropriate frequencies. Such an analysis is an inelegant solution for assessing the standards' potential impact should the frequency not be achieved, likely requiring an iterative process to develop a strategy to achieve the environmental flow criterion.

The bay and estuary freshwater inflow standards will be applied to an application for a new appropriation of water as part of the water availability determination for that application. The long-term frequency applied in this evaluation is the period of record of the applicable water availability model. The commission agrees that this analysis would be an iterative process and may require a strategy to achieve the environmental flow criterion, although this would depend on the fact situation of a particular permit to which the adopted standards are applicable. No change was made in response to this comment.

EXHIBIT 1

LGRT requests the executive director explain how the annual target frequency in the figure in §298.225(a) will be implemented in water rights subject to the rules, and how these numbers were derived given that there was no explanation in the preamble in this regard. LGRT also suggests that there needs to be a definition of the annual target frequency.

The bay and estuary freshwater inflow standards will be applied to an application for a new appropriation of water as part of the water availability determination for that application. The long-term frequency applied in this evaluation is the period of record of the applicable water availability model. The commission agrees that this analysis would be an iterative process and may require a strategy to achieve the environmental flow criterion, although this would depend on the fact situation of a particular application to which the adopted standards are applicable. In response to this comment, the modified rule clarifies annual and seasonal target frequencies. No change was made in response to this comment.

DWU notes that the figure in §298.225(a), the annual target frequency for the Trinity River inflow quantity of 1,357,133 acre-feet per year should be 70%, based on application of the Trinity WAM Run 3.

The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. The freshwater inflow quantities and frequencies in the adopted rule represent a balance between the two recommendations of the stakeholder group. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual comments that the TCEQ has the power and responsibility to ensure a healthy future for Galveston Bay, an important resource to all Texans and an important marine nursery to the already-beleaguered Gulf Coast, and requests the TCEQ to reconsider its position and to provide for the protection of future environmental flows to Galveston Bay.

The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual requests that the TCEQ balance upstream water needs with those of Galveston Bay, and ensure that the Bay does not fail to receive the fresh water it needs to remain a healthy fish and shellfish nursery, recreational and commercial fishing resource, and a high-quality ecosystem.

The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. In developing modifications to the adopted rule, the commission considered the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards. The freshwater inflow quantities and frequencies in the adopted rule represent a balance between the two recommendations of the stakeholder group. The commission also considered staff's water availability analyses on the adopted standards. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual comments that the TCEQ has to separate upstream water issues from sustaining the health of the Bay and protect the Bay system first, while looking for new ways to meet the water needs of communities upstream. Destroying the ecosystem in the Bay should not be an option in this or any other rule.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. In developing modifications to the adopted rule, the commission considered the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards. The freshwater inflow quantities and frequencies in the adopted rule represent a balance between the two recommendations of the stakeholder group. The commission also considered staff's water availability analyses on the adopted standards. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

Three individuals comment that Galveston Bay needs more freshwater for oyster cultivation and that the oyster beds and seafood industry are just now recovering from Hurricane Ike damage. They request that the Environmental Flow Standards for the Trinity and San Jacinto Rivers in §298.225(a) be revised to ensure that adequate water reaches Galveston Bay. Reducing the amount of water available to maintain salinity levels will be a devastating and possible fatal blow to the oystermen and their families.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. In developing modifications to the adopted rule, the commission considered the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

Eagle Point Fishing Camp, Inc. comments that low freshwater inflow inflicts damage upon the many oyster reefs that make up the base of the marine system. It is essential to have a healthy freshwater flow from both the Trinity and San Jacinto rivers and the TCEQ should place Galveston Bay "first" when it considers where fresh water is to be allocated.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. In developing modifications to the adopted rule, the commission considered the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards. The commission also considered staff's water availability analyses on the adopted standards. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

EXHIBIT 1

Sierra Club-Houston and one individual comment that the very low environmental flows that §298.225 of the draft proposal allows for in the Trinity and San Jacinto Rivers will make droughts more damaging because these very low flows result in a greater amount of salinity entering and persisting in Galveston Bay and traveling up both rivers. This would decimate freshwater and brackish water aquatic and plant communities and allow excessive numbers of oyster predators, like oyster drills, to enter and remain in Galveston Bay. The ultimate outcome of these low environmental flows would result in the severe degradation of oyster reefs in Galveston Bay which are critical for birds, finfish, shellfish, recreation (fishing), and economic activities (commercial oyster harvests).

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. Including seasonal components should provide additional protection during lower flow seasons. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. In developing modifications to the adopted rule, the commission considered the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards. The commission also considered staff's water availability analyses on the adopted standards. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a). The commission acknowledges that further analyses and studies may be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient freshwater inflows to Galveston Bay.

Café Express, Louisiana Foods Global Seafood Source, and more than ten individuals request TCEQ to keep plenty of fresh, clean water flowing into Galveston Bay and to maintain salinity levels that will keep the oysters and other shellfish and the seafood industry alive and well. The amount of water proposed in §298.225(a) is too low, looking at historical flows. The levels of water going into the bay should be increased to levels that will sustain the ecosystem.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. In developing modifications to the adopted rule, the commission considered the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

CEA, Fish City Grill, Evangeline Café, Louisiana Foods Global Seafood Source and more than 45 individuals comment that more freshwater inflows to Galveston Bay are needed for Texas oysters and seafood to protect from potential negative economic impact on the seafood and recreational fishing industries and to preserve Galveston Bay seafood future for generations.

The commission understands the need to protect Galveston Bay. The commission considered all of the comments and alternate proposals submitted in response to the proposed rules. The commission modified the adopted rule to include a seasonal component for inflows to Galveston Bay. In developing modifications to the adopted rule, the commission considered the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards. The freshwater inflow quantities and frequencies in the adopted rule represent a balance between the two recommendations of the stakeholder group. The commission also considered staff's water availability analyses on the adopted standards. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for that section.

Galveston Baykeeper, Junior Anglers and Hunters of America, and more than 20 individuals comment that the health of Galveston Bay - and the plants and animals that inhabit it - is dependent upon an adequate amount of freshwater flowing into the bay from the Trinity and San Jacinto rivers to dilute the seawater from the Gulf and bring in nutrients and sediments. These environmental flows are threatened by the current proposal.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual comments that freshwater from the Trinity and San Jacinto Rivers brings sediment to Galveston Bay, which builds up habitats such as saltwater marshes and the barrier islands.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The freshwater inflow quantities and frequencies in the adopted rule represent a balance between the two recommendations of the stakeholder group. The commission also considered staff's water availability analyses on the adopted standards. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

Houston Audubon and three individuals expressed concern that the proposed standards in §298.225(a) will limit the amount of freshwater flow to Galveston Bay, making it vulnerable to increased salinity, particularly during times of drought, which could negatively impact birds and wildlife that depend on the bay for survival.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

BLC, GBCPA, and two individuals comment that freshwater is important for the environmental quality of the estuarine system. Without this freshwater, these areas cannot be the diverse habitat required for the nursery systems they provide to species such as shrimp, crabs, and oysters. In particular, for sustained development of oysters, there is a defined range of salinity that optimizes growth and breeding. If the TCEQ allows the amount of fresh water that is directed into the bay be reduced, not only do

EXHIBIT 1

the bacteria levels go up but the salinity will significantly increase over time and kill off the oysters. Keep the freshwater flows as they are.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual comments that the amount of fresh water that flows down from the Trinity River greatly influences the overall water quality of the bay. Keep the fresh water flows as they are.

Freshwater inflows to the bay are influenced by a number of factors including water use and rainfall patterns. The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual comments that the economic and environmental consequences of failure to assure sufficient freshwater inflows to Trinity and Galveston Bays are devastating.

The commission recognizes the negative economic and environmental consequences of failing to provide adequate freshwater inflows to Galveston Bay. The commission based its decision on the recommendation of the majority of the stakeholders, which were based in part on the recommendations of seven members of the science team rather than the recommendations of the eight other members. The bay and estuary standards in the adopted rule are also used in Regional Water Planning. The commission considers the final rule provides for adequate freshwater inflows to preserve the sound ecological environment of Galveston Bay. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a).

One individual is very concerned that the rules under consideration (§298.225(a)) seem to disregard the natural flow levels needed to sustain a healthy environment in the Galveston Bay system and hopes that the TCEQ will take a step back and reconsider the potentially devastating, long-term, and potentially irreversible impacts of lowering the natural levels of fresh water flows into the Bay system. Under no circumstances should the TCEQ, or any other state agency entrusted with environmental protection, consider a rule that has obvious, unmitigatable, negative environmental impacts.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified the adopted rule to include seasonal components for inflows to Galveston Bay. Including seasonal components should provide additional protection during lower flow seasons. These changes are discussed in the adoption preamble in §298.225, and the modified numerical values can be found in the adopted standards for §298.225(a). The commission acknowledges that further analyses and studies may be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient freshwater inflows to Galveston Bay

DWU suggests adding the following text to the end of §298.225(a): "For permits issued within an area that is 200 river miles from the coast, to commence from the mouth of the river thence inland, the commission shall include in the permit any conditions considered necessary to maintain beneficial inflows to any affected bay and estuary system, to the extent practicable when considering all public interests, those conditions considered necessary to maintain beneficial inflows to any affected bay and estuary system."

With respect to the 200-river-mile boundary, the commission has determined that under TWC, §11.147(e-3), the 200-river-mile limit does not apply to environmental flow standards for bays and estuaries unless the science team or stakeholders submit this recommendation to the commission for review during the environmental flows process. The rule was not modified in response to this comment.

One individual comments that the proposed standards in §298.225 for the San Jacinto and Trinity Rivers are woefully inadequate to protect wildlife and the rivers themselves. These watersheds would be in danger of being reduced to a trickle.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The instream standards in the adopted rule represent a balance between the two recommendations of the stakeholder group. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

One individual comments that in most places, TCEQ's recommended flow levels in §298.225 would allow Trinity River flows to be reduced to levels seen only about 5% of the time in the last 50+ years. This could harm water quality and could affect the ongoing plans for restoring the Trinity in the DFW area. Low water levels could impact fish and wildlife up and down the river basins.

Commission staff performed a water quality analysis on the proposed standards. The water quality analysis considered the relationship between streamflow and the water quality parameters identified by the science team to look for trends and criteria excursions. This analysis did not identify any areas of concern. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225. These changes may address commenters' concerns.

BLC comments that it would be prudent to establish additional measurement points in §298.225 on the San Jacinto and Trinity Rivers to better monitor actual flow conditions for ongoing evaluation and planning.

The commission respectfully disagrees with this comment. The number of measurement points in the adopted rule represents a balance between the two recommendations of the stakeholder group. The measurement points reflect the geographic scope of the basin and bay system because they represent the major

EXHIBIT 1

watersheds in the basin. The rule was not modified in response to this comment.

Espey and LGRT comment that the geographic extent to which a flow regime recommendation applies is not clearly identified and spatial variations in the hydroclimatologies of contributing watersheds are not addressed and that it is unclear if measurements at a particular location are to be related to measurements at control points (i.e., the gaged site where instream flow criteria are assessed).

In adopted §298.220, a water right owner to whom the rules apply would be subject to the standards as they are implemented in special conditions in the water right permit. At this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. These specific comments are questions that will be decided in that process. The rule was not modified in response to this comment.

NTMWD and SJRA comment that it is unclear how permittees will be required to adhere to the proposed environmental flow standards in §298.225. It would be very difficult for a water rights holder to monitor all gages in a river basin associated with a water right that includes special conditions drafted to implement the rules. The executive director should clarify in the rules as finally adopted that he will not be requiring permittees to adhere to all flow standards in the basin, but only at a gage location near a proposed new appropriation of water. Without making this clarification, future permittees with authorizations issued subject to the rules could be subject to an overbearing task of monitoring conditions throughout the basin prior to diversion.

The commission responds that individual permit applications are different; therefore, special conditions may need to vary for those permits. The measurement point that would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application and a water right owner may need to monitor additional gages. No change was made in response to this comment.

NWF/LSCSC and NWFSCRC suggest deleting the following figures in proposed §298.225(b)(1) (USGS Gage 08049500, West Fork Trinity River near Grand Prairie); §298.225(b)(2) (USGS Gage 08057000, Trinity River at Dallas); §298.225(b)(3) (USGS Gage 08065000, Trinity River near Oakwood); §298.225(b)(4) (USGS Gage 08066500, Trinity River at Romayor); §298.225(b)(5) (USGS Gage 08070000, East Fork San Jacinto River near Cleveland); and §298.225(b)(6) (USGS Gage 08068000, West Fork San Jacinto River near Conroe) and replacing them with suggested revised figures.

The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225. The table format in the adopted rule adequately represents the flow standards in the adopted §298.225.

Espey and LGRT recommend removal of any language relating to flow quantities at this measurement point (proposed §298.225(b)(1), West Fork Trinity near Grand Prairie). These flow conditions were labeled as "conditional" in the Trinity and San Jacinto BBASC report because of insufficient analytical basis to include them as recommendations but as appropriate subjects for further study.

Including the measurement point West Fork Trinity near Grand Prairie in the adopted rule represents a balance between the two recommendations of the science team and stakeholder group. The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

One individual commends the TCEQ for inclusion of pulse flow standards in §298.225 but strongly urges TCEQ to add a standard for very high flow pulses. The pulse flows that are proposed do not have sufficient volume to cause significant habitat modification. One key to maintaining biodiversity in riverine systems is variation in physical conditions, much of which is caused by variation in flow. If high pulse flows are not protected, the potential exists for permits to be issued for harvesting of flood flows and subsequent removal of these critical ecological events. Large high flow pulses need to be included in the standards to protect the biodiversity in the rivers.

The pulse flows included in adopted §298.225 represent a balance between the two recommendations of the science team and stakeholder group. The commission considered all of the comments and alternate proposals submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225 and the modified numerical values can be found in the adopted standards for those sections.

NWF/LSCSC and NWFSCRC suggest changing "near" Dallas to "at" Dallas in proposed §298.225(b)(2).

The commission agrees and the proposed §298.225(b)(2), adopted and renumbered as proposed §298.225(c)(2) has been modified to reflect this comment.

Espey and LGRT recommend removal of any language relating to flow quantities at this measurement point (proposed §298.225(b)(2), Trinity River at Dallas). These flow conditions were labeled as "conditional" in the Trinity and San Jacinto BBASC report because of insufficient analytical basis to include them as recommendations but as appropriate subjects for further study.

Including this measurement point in the adopted rule represents a balance between the two recommendations of the science team and stakeholder group. The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

Sierra Club-Houston and one individual comment that the recommended environmental flow level for the Trinity River near Oakwood for May is greatly below what the Trinity River has experienced historically. This exceptionally low flow would result in a flow that is not sustainable for fish, wildlife, aquatic, and riparian communities.

The commission modified some of the specific numerical values for the flow components in the adopted rule, which may address commenter's concerns. These changes are discussed in

EXHIBIT 1

the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

NWF/LSCSC, NWFSCRC suggest adding §298.225(b)(3) as follows: "Trinity River near Rosser, Texas, generally described as USGS gage 08062500, and more specifically described as Latitude 32 degrees 25 minutes 35 seconds; Longitude 96 degrees 27 minutes 46 seconds" and to add a figure in §298.225(b)(3) (USGS Gage 08062500, Trinity River near Rosser).

Omitting the measurement point, Trinity River near Rosser, from the adopted rule represents a balance between the two recommendations of the science team and stakeholder group. The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

NWF/LSCSC and NWFSCRC suggest adding §298.225(b)(8) as follows: "Spring Creek near Spring, Texas, generally described as USGS gage 08068500, and more specifically described as Latitude 30 degrees 6 minutes 37 seconds; Longitude 95 degrees 26 minutes 10 seconds" and adding a figure in §298.225(b)(8) (USGS Gage 08068500, Spring Creek near Spring).

Omitting the measurement point, Spring Creek near Spring, Texas, from the adopted rule represents a balance between the two recommendations of the science team and stakeholder group. The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

NWF/LSCSC and NWFSCRC suggest adding §298.225(b)(9) as follows: "Brays Bayou at Houston, Texas, generally described as USGS gage 08075000, and more specifically described as Latitude 29 degrees 41 minutes 49 seconds; Longitude 95 degrees 24 minutes 43 seconds" and adding a figure in §298.225(b)(9) (USGS Gage 08075000, Brays Bayou at Houston).

Omitting the measurement point, Brays Bayou at Houston, Texas, from the adopted rule represents a balance between the two recommendations of the science team and stakeholder group. The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

NWF/LSCSC and NWFSCRC suggest adding §298.225(b)(10) as follows: "Buffalo Bayou at Piney Point, Texas, generally described as USGS gage 08073700, and more specifically described as Latitude 29 degrees 44 minutes 48 seconds; Longitude 95 degrees 31 minutes 24 seconds" and adding a figure in §298.225(b)(10) (USGS Gage 08073700, Buffalo Bayou at Piney Point).

Omitting the measurement point, Buffalo Bayou at Piney Point, Texas, from the adopted rule represents a balance between the two recommendations of the science team and stakeholder group. The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble in §298.220 and §298.225, and the modified numerical values can be found in the adopted standards in §298.225.

§298.230, Water Right Permit Conditions

TPWD notes that draft §298.230 sets a limit for applying high flow pulse requirements to water rights that are greater than 10,000 acre-feet/year. TPWD agrees that certain appropriations may not require a permit condition to protect high flow pulses, but believes that the criterion used to set an exemption threshold should be based on a water right's maximum authorized diversion rate and not on authorized annual diversion amount. In some instances at tributary and other locations, the 10,000 acre-feet/year exemption amount exceeds recommended pulse volumes and could significantly impact the proposed high flow pulses depending on the permit's authorized maximum diversion rate. TPWD is concerned about the potential cumulative effect of exemptions from the high flow pulse flow requirement on downstream high flow pulse characteristics. TPWD recommends that TCEQ adopt a rule for exemptions that sets a diversion rate threshold based on high flow pulse initiation triggers and limits the potential cumulative impacts on required high flow pulse that might result from the exercise of all such exempt permits to less than 10%. TPWD staff suggests the following alternative language for the appropriate sentences of §298.230: "Water right permits with a cumulative maximum diversion rate less than 10% of the smallest high flow pulse trigger flow as measured at the most immediate downstream environmental flow standard location shall not be subject to the special conditions relative to high flow pulses."

The commission respectfully disagrees. Time lag effects and tributary stream effects would make using a percentage of a pulse flow trigger inappropriate for translating the impacts of specific diversion rates for individual water rights into impacts on downstream pulse flow conditions. A water right diversion of 10,000 acre-feet would be unlikely to occur over a small number of days. In the event that such a situation occurred, only one pulse event would likely be impacted. Using a maximum diversion amount is a more straightforward method for determining whether pulse flow requirements should be included in special conditions of a water right permit. The rule was not modified in response to this comment.

NWFSCRC comments that 10,000 acre-feet per year of diversion or storage is an inappropriate cut-off point for exemption from complying with the pulse flow standards. Because many of the pulse flow proposals involve a total volume of less than 10,000 acre-feet, this exemption would allow these new water rights to fully capture pulse flows that are required to be passed by other holders of new water rights. That would frustrate the intended environmental flow protections and would be unfair to other water right holders. Given the variability of pulse flow volumes and pulse flow triggers, a simple volume-based exemption is not a reasonable approach. NWFSCRC does not oppose the concept of exempting certain very small water rights from undue complexities; however, such an exemption should be based on the relative size of the diversion or impoundment

EXHIBIT 1

right to the applicable flow standards at that location. Rather than a one-size-fits-all standard, a standard should be adopted that compares the authorized storage or diversion to the size, in terms of volume and pulse flow trigger rate, of the protected pulse at that location. NWFSCRC suggests the following replacement language: In §298.230(a), "For water right permits with an authorization to store an annual amount that is greater than 20% of the smallest applicable pulse flow volume at the location of the storage authorization or to divert at a rate that is greater than 20% of the smallest applicable pulse flow trigger rate at the location of the authorized diversion in the Trinity and San Jacinto River basins, and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to comply with the environmental flow standards of this subchapter." In §298.230(b), "For water right permits with an authorization to store an annual amount that is equal to or less than 20% of the smallest applicable pulse flow volume at the location of the storage authorization or to divert at a rate that is equal to or less than 20% of the smallest applicable pulse flow trigger rate at the location of the authorized diversion in the Trinity and San Jacinto River basins, and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to protect the environmental flow standards of this subchapter; however, no special conditions are necessary to preserve or pass high flow pulses unless the annual storage or diversion right exceeds 20,000 acre-feet."

Time lag effects and tributary stream effects would make using a percentage of the pulse flow volume inappropriate for translating the impacts of specific diversion rates for individual water rights into impacts on downstream pulse flow conditions. A water right diversion of 10,000 acre-feet would be unlikely to occur over a small number of days. In the event that such a situation occurred, only one pulse event would likely be impacted. Using a maximum diversion amount is a more straightforward method for determining whether pulse flow requirements should be included in special conditions of a water right permit. The rule was not modified in response to this comment.

One individual comments that 10,000 acre-feet is an incredible amount of water to allow to be diverted or stored without any special conditions for environmental flows. (10,000 acre-feet is 3,258,514,000 gallons of water per year) and urges TCEQ to amend §298.230 to reduce this amount to 500 acre-feet (which is still 162,925,700 gallons per year) so that more water rights permit holders are made responsible for the protection of our streams, rivers, and bays and estuaries from the cumulative impacts of water diversions and storage.

All water right applications that are subject to the standards would include special conditions to protect the standards. Smaller water rights, requesting an amount less than 10,000 acre-feet, would still be subject to subsistence and base flow standards under the adopted rule.

NWFSCRC comments that the proposed language in §298.230 that purports to establish a second balancing test in incorporating permit conditions is not consistent with TWC, §11.147(e-3). The language seems to suggest that the commission would undertake a balancing exercise and discretionary review in the permitting process through which TCEQ could decide not to include permit conditions necessary to protect the adopted environmental flow standards. For permits to which the standards apply, TCEQ must apply those standards in developing permit conditions. TCEQ does not have discretion to decide to apply the standards "to the maximum extent reasonable, considering other public interests and other relevant factors" as suggested in the proposed rule. A balancing test has already been incorporated into the adoption of the standards. This language would introduce a second layer of balancing and would necessitate individualized permit reviews while establishing the flow standards as a cap on environmental flow protection. That is not what HB 3/SB 3 provides. To avoid that inconsistency with the statutory directive, the following language should be deleted: "to the maximum extent reasonable, considering other public interests and other relevant factors."

The commission agrees and §298.230 has been modified to remove this language.

NWFSCRC comments that the reference in §298.230 to flow restriction special conditions that are adequate to "protect" environmental flow standards is a bit unclear. The term "comply with" should be substituted for "protect." Although it might be accurate to refer to protection of an environmental flow set aside, it is not clear how permit conditions would "protect" an environmental flow standard.

The commission respectfully disagrees. Special conditions that protect environmental flow standards would be those special conditions that ensure compliance with the standards. The rule was not modified in response to this comment.

TRA is concerned that the proposed rules make no allowances for the use of site-specific data and studies. Site-specific studies represent a better understanding of the relationship between flows and the health of aquatic ecosystems at a given location or within a given reach and are therefore more appropriate than the hydrology-based statistical methods that have been used heretofore. TRA believes language in the proposed rules should allow for the use of site-specific studies and suggests that §298.230(a) be changed to read as follows: "For water rights permits . . . considering other public interests, site-specific studies, and other relevant factors."

The commission respectfully disagrees with this comment. TWC, §11.147(e-3), expressly states that: "Notwithstanding Subsections (b) - (e), for the purpose of determining the environmental flow conditions necessary to maintain freshwater inflows to an affected bay and estuary system, existing instream uses and water quality of a stream or river, or fish and wildlife habitats, the commission shall apply any applicable environmental flow standard, including any environmental flow set aside, adopted under TWC, §11.1471, instead of considering the factors specified by those subsections."

TWC, §11.147(b) - (e) are the statutes regulating how the commission protected the environment prior to HB 3/SB 3. It is clear that the bill and TWC, §11.147(e-3), meant for the commission to protect any environmental flow standards determined under TWC, §11.1471, in a permit for new water instead of using these other statutes and site-specific data. Under TWC, §11.1471(d), all new appropriations or increases in the storage, taking, or diversion of water issued after an environmental flow standard is adopted must contain the standard. The commission acknowledges that further data may be developed. However, HB 3/SB 3 contemplate that this new data and new studies will be considered through adaptive management.

In the commission's proposal preamble, the commission stated that it still retained its existing authority to place special condi-

EXHIBIT 1

tions in permits to protect the environment. The intent of this statement was to clarify that the commission would use special conditions to implement the environmental flow standards for applications for new appropriations of water and applications to increase the amount of water to be taken stored or diverted after September 1, 2007. Additionally, the commission still has authority to use special conditions for those applications which are not for new appropriations or an increase in storage, taking, or diverting of water.

WW comments that the main concern of water users is the impact of the adopted environmental flow standards on their ability to predict available water supply. For that reason, the more simplified the environmental flow regime, the better, in terms of its use and administration. Oversimplification, however, without reference to site-specific conditions of the location and conditions of the diversion, can be burdensome with no real payoff in terms of supporting a sound ecological environment. In looking at each water rights permit application, TCEQ should consider how the applicant could reasonably support environmental flow standards while also balancing the water supply development aspect of the project. The commission is empowered to undertake this balancing and doing so does not negate the environmental benefits of establishing bay and basin wide flow regimes. Consequently, the language in §298.230(a) seems reasonable on its face. Let us hope that this provision allows for a dialog among applicants, TCEQ staff, and affected persons regarding reasonable water rights permit terms and conditions, considering the specifics of the application under consideration.

The commission respectfully disagrees with this comment. TWC, §11.147(e-3), expressly states that: "Notwithstanding Subsections (b) - (e), for the purpose of determining the environmental flow conditions necessary to maintain freshwater inflows to an affected bay and estuary system, existing instream uses and water quality of a stream or river, or fish and wildlife habitats, the commission shall apply any applicable environmental flow standard, including any environmental flow set aside, adopted under TWC, §11.1471, instead of considering the factors specified by those subsections."

TWC, §11.147(b) - (e) are the statutes regulating how the commission protected the environment prior to HB 3/SB 3. It is clear that the bill and TWC, §11.147(e-3), meant for the commission to place any environmental flow standards determined under TWC, §11.1471, in a permit for new water instead of using these other statutes and site-specific data. Under TWC, §11.1471(d), all new appropriations or increases in the storage, taking, or diversion of water issued after an environmental flow standard is adopted must contain the standard. The commission acknowledges that further data may be developed. However, HB 3/SB 3 contemplate that this new data and new studies will be considered through adaptive management.

In the proposal preamble, the commission stated that it still retained its existing authority to place special conditions in permits to protect the environment. The intent of this statement was to clarify that the commission would use special conditions to implement the environmental flow standards for applications for new appropriations of water and applications to increase the amount of water to be taken, stored, or diverted after September 1, 2007. Additionally, the commission still has authority to use special conditions for those applications which are not for new appropriations or an increase in storage, taking, or diverting of water.

The commission also notes that one of the factors considered in developing the adopted standards was consideration of human and other competing needs for water. To the extent that this balancing already occurred during the development of the adopted standards, further balancing on an application specific basis would be inappropriate. Additionally, such further balancing is not contemplated in the statute.

§298.240, Schedule for Revision of Standards

Two individuals comment that ten years is too long for TCEQ to wait to re-examine environmental flow standards. Since the water planning cycle is five years, the re-examination should occur just before each Regional Water Planning Group completes its updated Regional Water Plan. Similarly, BPA recommends that the review period stated in the proposed rule be shortened to five years instead of ten years and to allow the local stakeholders to submit work plans at any frequency the local stakeholders select.

Similarly, WW comments that the ten-year period for the rules to be effective seems excessive, if it becomes clear that the environmental flow standards need to be revised sooner. Why not allow for a petition process to revise the rules in the same manner that the commission or the executive director can adjust permits, except allowing full notice and comment rulemaking?

HB 3/SB 3 preclude the commission from providing that the rulemaking process occur more frequently than once every ten years unless a stakeholder workplan approved by the advisory group calls for a more frequent schedule. At this time there is not an approved workplan for this basin and bay system. The work groups can set a more frequent schedule if they choose to. The rule was not modified in response to these comments.

BRA comments that scientific studies performed under the SB 2 process should be incorporated into the HB 3/SB 3 recommendations. It is recommended that if the SB 2 process cannot be incorporated into the process, the adaptive management process have a five-year mandatory review period and revision of the regulations by river basin until all data gaps are filled. Additionally, funding should be provided to generate the science identified by the BBESTs to fill the data gaps and make necessary, consequential adjustments to the regulations during adaptive management reviews.

The commission acknowledges the comment but notes that it is prohibited by HB 3/SB 3 from providing that the rulemaking process occur more frequently than once every ten years unless a stakeholder workplan approved by the advisory group calls for a more frequent schedule. At this time there is not an approved workplan for this basin and bay system. The work groups can set a more frequent schedule if they choose to. The rule was not modified in response to these comments.

Espey and LGRT comment that the commission notes that it is prohibited from providing a rulemaking process that occurs more frequently than once every ten years unless the stakeholders' workplan approved by the Advisory Group under TWC, §11.02362(p), calls for a more frequent schedule. Considering the historical frequency of actions of the Advisory Group, Espey, and LGRT suggest that the commission strongly consider any schedule recommended by the Trinity-San Jacinto Stakeholder Committee, regardless of its status of approval by the Advisory Group.

The commission acknowledges the comment but notes that it is prohibited by HB 3/SB 3 from providing that the rulemaking

EXHIBIT 1

process occur more frequently than once every ten years unless a stakeholder workplan approved by the advisory group calls for a more frequent schedule. At this time there is not an approved workplan for this basin and bay system. The work groups can set a more frequent schedule if they choose to. The rule was not modified in response to these comments.

NWFSCRC comments that the basic premise of HB 3/SB 3 is that participation by a balanced representation of stakeholder interests is essential to an appropriate outcome. That basic policy is memorialized in TWC, §11.0235(d-6) and §11.02362(f)(1). That policy also must be reflected in the rules governing the commission's process for revisions of the environmental flow standards. Accordingly, the last sentence of this proposed section should be changed to read as follows: "The rulemaking process shall include participation by a balanced representation of stakeholders . . . ."

The commission agrees and modified adopted §298.240 to reflect this comment.

Subchapter C: Sabine and Neches Rivers, and Sabine Lake Bay

General

NWFAF and over 1,600 individuals comment that no weakening of these proposed standards should be considered.

The commission responds that it is not clear what the commenters would consider "weakening" of the standards. The commission considered all comments submitted in response to the proposed rules and balanced the interests in its standards. Changes were made to the rule based on comments. These changes are explained in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

Two individuals comment that the rules proposed by the TCEQ are inadequate to maintain a sound ecological environment for the Neches and Sabine Rivers and the Sabine Lake Estuary and request the TCEQ to select the maximum possible flows necessary to protect residents of east Texas, including wildlife and protected species.

The commission cannot respond specifically to this comment because the development of these standards involves a balancing of interests. The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. Some changes to the adopted rule were made in response to these comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

NWFSCRC comments that the proposed flow standards for the Sabine and Neches basins and Sabine Lake, although marginal in some key aspects, do appear, based on information currently available, to be adequate overall to support a sound ecological environment. Friends of the Neches River and six individuals comment that the rules proposed by the TCEQ would be the bare minimum to maintain a sound ecological environment for these ecosystems but encourage the TCEQ to protect these necessary flows by staying with these bare minimum flows as originally proposed.

The commission responds that some changes to the adopted rule were made in response to comments and alternative recommendations. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

NWFSCRC is aware of a filing, under a letter dated December 7, 2010, on behalf of the SNBBASC, that recommends the commission should adopt a version of the proposed standards that includes only the subsistence flows, the dry condition base flows, and a version of the dry condition tier of pulse flows. NWFSCRC notes that SB 3 provides that the commission is to give specific consideration to BBASC recommendations developed under TWC, §11.02362(o), which establishes a mandatory schedule with an explicit deadline for submission of those recommendations to the TCEQ. NWFSCRC comments that the time period for such a submission has long expired, and accordingly, this latest submission does not qualify as a BBASC report. In addition, the December 7, 2010 submission on behalf of the SNBBASC was developed largely behind closed doors rather than in the open and transparent manner aimed at achieving consensus as envisioned by SB 3. NWFSCRC comments that allowing stakeholder committees to wait to develop flow standard recommendations until after the commission has proposed draft rules, and to do so through a non-transparent process, would thwart the intricate public participation process that is at the heart of SB 3. Friends of the Neches River and more than five individuals comment that the proposal by the Sabine/Neches BBASC to reduce these instream flows will not provide adequate instream flows to protect these vital ecosystems. The Sabine/Neches BBASC attempts to balance the "needs of man" with its proposal; however, the proposal goes far beyond providing the necessary water for East Texas' future water demands and economic growth. BTA comments that the December 7, 2010 stakeholder report proposes flow standards that put potential and undocumented human needs over environmental needs. SB 2 and SB 3 were intended to protect the water needs of the environment, not urban golf courses. The TCEQ proposed standards, on the other hand, do attempt to balance environmental and human needs. They try to ensure that critical habitats have an adequate supply of water, at least most of the time.

The SNBBASC recommendations were considered as a comment, which was considered with all of the comments submitted in response to the proposed rules. Some changes to the adopted rule were made in response to these comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

NWFSCRC comments that the December 7, 2010 submission on behalf of the SNBBASC provides almost no seasonal or inter-annuals fluctuations; provides protection only for very dry year flow levels even during normal and wet periods; provides almost no pulse flow protections; and includes no evaluation of the adequacy of the proposed flow schedule, which does not constitute an environmental flow regime, to protect a sound ecological environment. Its sole goal appears to be to propose a minimal level of flow protection in order to reduce as much as possible any potential impact on yield of hypothetical new water projects without regard to the adequacy of the standards to protect a sound ecological environment. That approach is not consistent with SB 3. In addition, the submission recommends that environmental flow standards should include an explicit limit on the amount of yield impact on proposed new projects. That is not a reasonable approach. It would amount to a determination that any new water project should be given precedence over

EXHIBIT 1

preserving the ecological productivity of an estuary and the economic activity associated with commercial and recreational fishing and nature tourism that might be destroyed by the construction of that project. The basic premise of SB 3 is that reasonable levels of environmental flows must be protected. As future water supply projects are developed, they must be designed to accommodate that protection. If it becomes absolutely necessary to change the standards to lessen that protection, SB 3 allows that, but only upon meeting a high burden of showing that protecting a sound ecological environment is not reasonable. Such a determination cannot be made in advance.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. The commission notes that during adaptive management, the science team and stakeholders will re-evaluate the rules to determine if more environmental protection is required. With respect to the alternate rule recommendation referenced in this comment, the commission removed the hydrologic conditions and modified some of the specific numerical values for the flow components in the adopted rule. Some changes to the adopted rule were made in response to these comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

NWFSCRC comments that the proposed standards: protect only a relatively small amount of the overall flow, regardless of hydrologic condition; provide for seasonal and annual fluctuations of flow; provide for maintaining a subset of naturally occurring pulse flows; actually protect less overall flow, although distributing it more efficiently, than the current default methodology; and would allow more water to be available during dry hydrological conditions.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. Some changes to the adopted rule were made in response to other comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

Friends of the Neches River, Texas Conservation Alliance, and more than five individuals comment that the recommendation of the BBASC to reduce flows is unfortunately based on the desire to sell water rather than the science of necessary instream flows for a healthy and productive environment and that the proposed water needs do not represent the actual water needs of the citizens of East Texas. The BBASC's proposed "balancing act" will be damaging to these rivers and the estuary. It goes far beyond what the BBEST found to be the bare minimum necessary flows, and it violates both the spirit and letter of what the Texas Legislature intended when HB 3/SB 3 were passed.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules as well as commission staff's water availability analyses of the adopted standards. With respect to the alternate rule recommendation referenced in this comment, the commission removed the hydrologic conditions and modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

Three individuals comment that while they appreciate the water needs of growing communities, they feel that the low growth rates of east Texas imply that water need not be withdrawn from critically important stream/rivers in the region. Water should not be exported from the Sabine or Neches watersheds to urban areas outside those drainages. Drought and global warming need to be considered, and metro areas should first put in place water conservation measures for all their citizens before anyone considers talking about selling water to them.

The transfer or sale of water outside of East Texas was not involved in this rulemaking. HB 3/SB 3 do not address water sales. The rule was not modified in response to this comment.

LGRT, LNVA, SRA Texas, TXOGA, and UNRMWA comment that the SB 3 periodic review schedule should be aligned such that the review is available for the regional water planning groups to consider in each round of SB 1 regional planning (five-year cycle).

The commission responds that it is prohibited by HB 3/SB 3 from environmental flows rulemaking more frequently than once every ten years, unless the stakeholder's workplan, approved by the advisory group, calls for more frequent scheduling. The rule was not modified in response to this comment.

ANRA supports the TCEQ's decisions to not establish environmental flow set asides, to apply pulse flow standards only to large-scale projects, and to not require overbanking flows.

The commission acknowledges this comment.

Big Thicket believes that the environmental flow recommendations from the BBEST for maintenance of a sound ecological environment are balanced with water needs for other public purposes. The science team recommendations did consider additional factors such as potential operator liability, property damage, implementation issues, and water planning and development scenarios. This additional balancing is significant in that it led to a recommendation that did not include overbank flows. Big Thicket commends the Sabine-Neches BBEST for their work overall, including the balancing factors they considered, which turned out to be prescient given the lack of recommendations from the stakeholder committee. Big Thicket also applauds the TCEQ for using the science team's recommendations as a basis for analysis for the proposed rulemaking.

The commission acknowledges this comment but notes that the adopted standards were modified in response to comments on the proposed rule. The commission removed the hydrologic conditions and modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

Big Thicket comments that the revised standards submitted by the SNBBASC remove all of the wet season and average season flows, thus stripping away most high-flow pulses, and defaults to the dry season subsistence and base flow conditions. This new recommendation would effectively weaken environmental flow standards for the Sabine-Neches to the schedule of flow quantities recommended for the Trinity-San Jacinto. Further, the basis for these comments relies upon potential impacts to water projects that are not included in regional water plans (i.e., Big Sandy, Mineola, Rockland) and primarily measure the impacts of the TCEQ-proposed standards to no environmental flows (as opposed to comparison with the default Lyons method). Given

EXHIBIT 1

that the TCEQ has authority in TWC, §5.506 and §11.148, plus proposed amendments to §35.101, to temporarily make water set aside for environmental flows available for other beneficial uses (e.g., domestic, municipal, agriculture, industry, etc.) during emergency conditions, the position of a majority of stakeholders to withhold water from inclusion in an environmental flow prescription is over-protective and unnecessary.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules as well as commission staff's water availability analyses of the adopted standards. With respect to the alternate rule recommendation referenced in this comment, the commission removed the hydrologic conditions and modified some of the specific numerical values for the flow components in the adopted rule. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

LNVA urges the commission to incorporate in its rules and/or processes the mechanisms necessary to track and propagate to new permits the requirements placed in special conditions of permits issued under these proposed rules. In comments dated August 13, 2010, LNVA requested recognition of the contribution senior downstream water rights holders make in meeting instream flow targets. Not only is it imperative that the TCEQ recognize: 1) senior water rights; and 2) the beneficial environmental effects of bed and bank transfers to satisfy downstream water rights, but also; 3) special conditions on downstream permits to maintain certain stream flow conditions. For example, the Neches River Saltwater Barrier, in Permit 5743 Special Condition (b)(i), is required to pass a minimum 400 cfs average daily stream flow when in salinity control operations. Therefore, permits issued in the Neches Basin after February 25, 2002 should be required to pass their pro-rata share of water to satisfy senior downstream rights, including the environmental flow requirements of those rights, such as required at the Neches River Saltwater Barrier. LNVA adds that it proposed three control points in the Neches Basin where those needs to satisfy downstream water right holders exceeded the subsistence, and in many cases, the base flow recommendations of the stakeholder report.

This rulemaking is to establish environmental flow standards that must be met. The commission has found that impacts on senior water rights should be minimal based on a water availability analysis for the adopted standards which considered all senior water rights at their fully authorized amounts. Requiring that senior water right needs be met at certain points is not part of this rulemaking and is not a requirement of HB 3/SB 3. The rule was not modified in response to this comment.

WW comments that the environmental flow standards for the Sabine and Neches Rivers and Sabine Lake Bay seem more complex and difficult to administer than the Trinity-San Jacinto Basin standards. At the same time, the complex standards are recommended by the Bay-Basin Stakeholders group. Accordingly, in looking at each water rights permit application, TCEQ should consider how the applicant could reasonably support environmental flow standards while also balancing the water supply development aspect of the project. The commission is empowered to undertake this balancing and doing so does not negate the environmental benefits of establishing bay and basin wide flow regimes.

The commission applied balancing in formulating the rules. Commission staff used the WAM to determine the impact of the adopted standards on a future water use scenario and found that there would be no significant impact from implementation of the adopted standards. Applying additional balancing to individual permit applications, that would change the environmental flow standards, is not allowed by HB 3/SB 3. The rule was not modified in response to this comment.

One individual comments that the state must adopt the flow-standards proposals for the Neches and Sabine rivers/Sabine Lake watershed submitted by the National Wildlife Federation and Sierra Club-Lone Star.

The commission respectfully disagrees. The commission considered all comments, statutory factors, and balancing in this rulemaking and is not required to adopt any one submission.

§298.250, Applicability and Purpose

NWFSCRC comments that the language in §298.250 providing that the provisions of Subchapter C control over the provisions of Subchapter A is overbroad and could produce unnecessary ambiguity. There are numerous provisions in Subchapter A addressing issues not directly addressed in Subchapter C that should continue to apply. That language should be limited to provide that in the case of "a direct conflict," the provisions of Subchapter C control over the provisions of Subchapter A.

The commission agrees and modified §298.250 in response to this comment.

§298.255, Definitions

BRA comments that the idea of a wet, average, or dry hydrologic condition is important but has little meaning when the hydrologic condition is based on statistics for the entire period of record and implemented based on a single day at the initiation of a season. Conditions in Texas rivers and tributaries are dynamic and change rapidly, such that dry hydrologic events as identified by HEFR will be experienced during average and wet seasons and wet hydrologic events will be experienced during dry and average seasons (See §298.255(1), (2) and (7) and §298.270(a)). Consideration should be given to development of flow standards that changed according to the weather to reflect actual conditions. The National Weather Service or the River Forecast Center may be a resource for determining actual short term hydrologic conditions based on soil moisture and weather forecasting for a more meaningful implementation.

The commission acknowledges this comment and notes that in response to other comments, the hydrologic conditions that were in proposed §298.270 have been removed from the adopted rule. The reason hydrologic conditions were removed from the adopted rule is discussed further in the adoption preamble for §298.275 and §298.280, and the modified numerical values can be found in the adopted standards for those sections. The commission will consider this comment in future rulemaking proceedings should future groups recommend hydrologic conditions.

TPWD comments that the definitions of dry and wet hydrologic conditions are predicated on "upstream storage conditions." Section 298.270 further clarifies that hydrologic conditions for each measurement point will be based on "the cumulative storage in the major reservoirs located upstream of that measurement point." However, it is not clear if the intent is to base hydrologic conditions on: 1) all reservoirs physically upstream of the location; or 2) all reservoirs physically upstream of the location and upstream of where the tributary that the location is on meets the main stem of the river. Based on the construction the figure in §298.270(b), it would appear that the intent is

EXHIBIT 1

option (2), but this is not clearly stated in the text. If no upstream reservoirs exist (under either option (1) or (2)), there appears to be no proposed alternative. Also, the term "major" should be defined to avoid ambiguity. Clarification is needed to address these issues.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules. Based on that review, the commission removed the hydrologic conditions in the adopted rule. These changes are discussed in the adoption preamble for §298.275. No further clarification was made in response to this comment because the adopted rule does not contain hydrologic conditions.

ANRA and FNI support the ability of each BBEST/BBASC group to define a "sound ecological environment" for their basins and bays but would like to see criteria that are measurable in those definitions. As currently proposed in §298.255, metrics to establish adaptive management for the purpose of maintaining a sound ecological environment are not identified.

The commission notes that specific monitoring and studies to support adaptive management may be included in the workplans submitted by the BBASC. At this time, there is not an approved workplan for this basin and bay system. The rule was not modified in response to this comment.

Big Thicket comments that the proposed definition of a "Sound ecological environment" in the proposed rule is inferior to the definition proposed by the SAC and the Sabine-Neches BBEST. The proposed definition would place reservoir "habitat types" on equal footing with natural habitat features, and "important" species (i.e., non-native game fishes) on par with native species. Big Thicket recommends instead the definition used by the SAC or the BBEST, which places greater emphasis on native biodiversity and natural flow regimes and which set clearer targets for future monitoring which may be performed under a work plan.

"Sound ecological environment" is defined in adopted §298.255(3). The stakeholders made this finding. The stakeholders with their broader mandate considered additional factors in developing their definition of sound ecological environment. The commission gave deference to the finding made by the stakeholders, who considered input from the science team for the basin and bay system. The science team considered the available science as of this date and there is no evidence that the adopted standards would not support a sound ecological environment. The adopted standards are not based solely on scientific information. The commission followed its instructions in the TWC by balancing human and other competing needs for water with the scientific recommendations. The rule was not modified in response to this comment.

§298.260, Findings

One individual would like to know what TCEQ means when it says that "The Sabine and Neches Rivers, their associated tributaries, Sabine Lake Bay, and associated Sabine-Neches estuary are substantially sound ecological environments . . . . The commission finds that this sound ecological environment." TCEQ must state what "substantially sound ecological environments" and "sound ecological environment" mean; what the difference between these two are because of their wording difference; why one is plural and one is singular; and tell how this determination was derived.

"Sound ecological environment" is defined in adopted §298.255(3). The stakeholders made this finding. The commission gave deference to the finding made by the stakeholders, who considered input from the science team for the basin and bay system. The science team considered the available science as of this date and there is no evidence that the adopted standards would not support a sound ecological environment. The adopted standards are not based solely on scientific information. The commission followed its instructions in the TWC by balancing human and other competing needs for water with the scientific recommendations. The rule was not modified in response to this comment.

Big Thicket comments that the TCEQ's finding that the Sabine and Neches Rivers, their associated tributaries, Sabine Lake Bay, and the associated Sabine-Neches estuary are substantially sound ecological environments is not supported by present water quality or ecological criteria. Waters of Big Thicket National Preserve are impaired under several state standards. Water quality impairments within the Preserve include elevated mercury levels in fish, elevated bacteria, depressed dissolved oxygen, and low pH. Ecologically, some species of fish and freshwater mussels are not presently on a sustainable trajectory under current conditions. Altered flow regimes have been identified as a contributor (among others) to these declines. More than 90% of the wetland marshes of the Neches River delta have been converted to open water, and non-native species (plants and animals) are present in the basin's waters and can negatively impact native species, ecosystems, and other public benefits. While historic conditions achieved a sound ecological environment, present conditions are measurably degraded. Big Thicket recommends a frank acknowledgement of the ecological condition of the basin's waters and that achieving a sound ecological environment will require active restoration and recovery of habitats and species. USFWS comments that the TCEQ provides no scientific basis for the statement that the basin has a sound ecological environment and is concerned that this basin may not be sound for several reasons. There have been significant losses of riparian wetlands and bottomland forest, populations of migratory birds that depend on bottomland forest have declined, several species of mollusks are either listed by the State, are species of concern, or have been petitioned for listing under the Endangered Species Act, and several stream segments do not meet water quality standards. In the bays and estuaries, significant wetlands have been lost, several commercially and recreationally important fisheries are in decline, fish consumption advisories are in place, several species of wetland-dependent birds are in decline, a negative sediment budget prevails, and millions of dollars have been expended and continue to be sought to restore important wetlands and biological resources. Some of these issues are directly related to changes in hydrology while others are indirectly related. There were limited to no analyses or references provided by the BBEST, BBASC, or TCEQ to support the claim that the riverine and estuarine environments are sound. USFWS recommends further analysis to determine whether the basin is a sound ecological environment consistent with the SAC and TIFP definitions and further recommends that factors associated with hydrological modifications and those that are independent be segregated in the analyses. An alternative approach would be to equate a sound ecological environment to baseline conditions, thereby dispensing with historical changes through time and the negative effects of some of these changes.

"Sound ecological environment" is defined in adopted §298.255(3). The stakeholders made this finding. The stakeholders with their broader mandate considered additional factors in developing their definition of sound ecological environment.

EXHIBIT 1

The commission gave deference to the finding made by the stakeholders, who considered input from the science team for the basin and bay system. The science team considered the available science as of this date and there is no evidence that the adopted standards would not support a sound ecological environment. The adopted standards are not based solely on scientific information. The commission followed its instructions in the TWC by balancing human and other competing needs for water with the scientific recommendations. The rule was not modified in response to this comment.

NWFSCRC comments that the proposed flow regime includes three levels of base flows and that those levels should be reflected in the text of the proposed findings, consistent with the reference to two levels of high flow pulses.

The commission considered all of the comments and alternate recommendations submitted in response to the proposed rules, as well as commission staff's water availability analyses. With respect to three levels of base flow, after considering all relevant factors, including human needs for water, the commission is removing the hydrologic conditions and including only one level of base flow in the adopted standards. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

§298.265, Set-Asides and Standards Priority Date

TPWD notes that §298.265 states that the priority date for set-asides and environmental flow standards will be November 30, 2009. However, set-asides are not proposed and TPWD does not believe that priority dates are appropriate for environmental flow standards. LGRT notes that in §298.265, the ED proposes to assign priority dates for both environmental flow set-asides and environmental flow standards. LGRT comments that the prior appropriation doctrine in Texas and elsewhere in the Western United States is the primary foundation for surface water rights management, and the doctrine has been the subject of significant case law and agency policy for well over 100 years. Therefore, enveloping environmental flow standards with the concept of priority, and arguably making such standards subject to the prior appropriation doctrine, should be avoided if not absolutely necessary. LGRT comments that environmental flow standards should not be assigned priority dates, as they should be considered as flows reserved from appropriation, unlike environmental flow set-asides, which should be considered as stand-alone water rights that would be cloaked with priority. LGRT comments that SB 3/HB 3 did not provide and does not require that environmental flow standards be assigned priority but agrees that SB 3/HB 3 made it clear that the environmental flow set-asides are to be assigned priority.

The commission responds that the priority date for the environmental flow standards will be used in water rights permitting in the water availability model runs used for water availability analyses. The function of a priority date in the water availability model is to ensure that water rights are processed in seniority order. With respect to environmental flow standards, using a priority date in the water availability model ensures that the standards do not apply to existing senior water rights and do apply to new appropriations of water. By including the standards in the WAM with a priority date, the commission protects pulse flow standards from being permitted to smaller applicants to whom the standards apply. In addition, including the standards in the WAM with a priority date ensures that new appropriations will not affect downstream flow standards. The priority date has no other purpose. The commission has clarified the language in §298.265 in response to these comments.

§298.270, Calculation of Hydrologic Conditions

LGRT, Big Thicket, TPWD, UNRMWA, ANRA, and FNI all expressed concerns with, requested clarification on, or suggested changes to various aspects of the hydrologic condition determination proposed in §298.270 of the draft rule.

With respect to three levels of base flow, after considering all relevant factors, including human needs for water and responses to comments, the commission is removing the hydrologic conditions and including only one level of base flow in the adopted standards. Section 298.270, Calculation of Hydrologic Conditions, is withdrawn from proposal. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

§298.275, Schedule of Flow Quantities

ANRA and FNI support the TCEQ's approach to meet the pulse criteria by either duration or volume for a qualifying pulse. However, the rules are vague as to how a qualifying event for a pulse will be documented and recorded for compliance with the instream flow criteria. ANRA and FNI recommend that more definitive language be added to the rule that recognizes compliance with meeting the instream flow standard should a water right holder cease diversions and/or storage for the specified volume or time. Should the specified volume pass the measurement point without ceasing diversions or storage, the qualifications for a pulse event should be considered met.

A water right holder to whom these rules apply can divert or store water subject to special conditions in their permit. Those special conditions could include accounting plans or other means to determine whether a water right holder is in compliance with its permit requirements related to pulse flows. Once a pulse requirement is met, a water right holder can divert flows greater than the subsistence or base flows, depending on which flow requirement applies. The adopted rule also requires that a water right holder not divert or store water until the specified volume or duration requirements are met after the peak flow trigger level occurred. This requirement allows a water right holder to divert or impound flows above the high flow pulse peak value subject to the needs of senior water rights and other special conditions included in an individual permit. The rule was not modified in response to this comment.

FNI comments that the rules define a high flow pulse as beginning when the peak flow criterion is met; this is inconsistent with the method used by the Sabine-Neches BBEST. FNI agrees that a simpler method of identifying a pulse may be more practical than the complex method employed by the BBEST. TCEQ may want to consult with the stakeholder and science groups to determine how duration or volume criteria should be adjusted based on the revised definition.

The commission agrees that the science team used different methods to generate their specific numeric recommendations for pulse flows. However, the commission responds that the methods adopted in the rule to determine compliance with the standards must be both practical and enforceable. The commission acknowledges that further data may need to be developed, or existing data may need to be adjusted. However, HB 3/SB 3 contemplate that additional data and/or studies will be consid-

EXHIBIT 1

ered through adaptive management. The rule was not modified in response to this comment.

UNRMWA comments that in the schedule of flow quantities, TCEQ proposes that under wet conditions two smaller magnitude high flow pulses and one larger magnitude high flow pulse be allowed to pass during a three-month season. This is clearly in conflict with the Sabine-Neches BBEST report (page.180), which specifies that only one larger magnitude high flow pulse need be allowed to pass during a three-month season under wet hydrologic conditions. If TCEQ chooses not to adopt the BBASC recommendation, which includes only one seasonal tier of high flow pulse and excludes determination of hydrologic condition, it is respectfully requested that the TCEQ modify its draft rules for consistency with the BBEST report.

With respect to the large magnitude high flow pulse, after considering all relevant factors, including human needs for water and response to comments, the commission is removing the hydrologic conditions and including only one level of pulse flows in the adopted standards. The adopted rule has been modified to delete hydrologic conditions and the adopted rule only includes one level of base flows and one level of high flow pulses. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

TPWD comments that the BBEST used the HEFR default parameters to identify subsistence flow recommendations, which, in large part because of the hydrographic separation approach taken by the BBEST, results in flows around the 2nd percentile. In some seasons, the hydrographic separation procedure did not identify any subsistence flows, and the BBEST ultimately recommended the larger of the minimum flow ever recorded in that season or the summertime subsistence flow recommendation. The end result is subsistence flows that are very low and generally represent flows lower than those where water quality data have been collected. These flows have no biological justification and very limited water quality justification. In the Sabine and Neches basins for this process, TPWD supports the use of the seasonal 5th percentile of flows (also referred to as the Q95) for subsistence flows until further monitoring and research on flow-ecology relationships is available. The Q95 statistic, while not based on site-specific data, has been used in several other instream flow studies around the world, including some in Texas, and was endorsed by most members of the BBEST biology committee.

Commission staff reviewed the numerical values in the proposed standards in response to comments and performed a water quality analysis on the adopted standards. The water quality analysis considered the relationship between water quality parameters, identified by the science team, and streamflows to look for trends and criteria excursions. This analysis did not identify any areas of concern. The commission acknowledges that there is less data available at lower flow levels. This issue may be addressed in the workplan for this bay and basin system. The rule was not modified in response to this comment.

TPWD comments that in the Sabine and Neches basins for this process it supports the use of a minimum threshold of the 7Q2 (except at sites downstream of the hydropower dams, i.e., Neches River at Evadale, Sabine River near Ruliff, and Sabine River near Bon Wier). The 7Q2 flow is used by TCEQ as a flow standard in routine water right permit conditions to minimize the risk that diversions will lead to water quality problems, at least when no modeling is available to determine flows necessary to maintain water quality standards. It is also a minimum threshold in the consensus water planning environmental flow criteria and was recommended by the Technical Review Group in 2008 that reviewed desktop methods. TPWD is not aware of any modeling that has been done to determine if flows less than 7Q2 would maintain standards. 7Q2 flows would be more protective of water quality conditions and should be used as a minimum threshold at all control points other than those downstream of hydropower dams (given their influence on the magnitude of 7Q2) until modeling, monitoring, and research on flow-ecology relationships under subsistence and base flow conditions are available.

Commission staff reviewed the numerical values in the proposed standards in response to comments and performed a water quality analysis on the adopted standard. The water quality analysis considered the relationship between water quality parameters, identified by the science team, and streamflows to look for trends and criteria excursions. This analysis did not identify any areas of concern. The commission acknowledges that there is less data available at lower flow levels. This issue may be addressed in the workplan for this bay and basin system. The rule was not modified in response to this comment.

ANRA and FNI comment that the language is not clear as to when the subsistence flow criteria will apply versus the base flow criteria for the dry conditions. There are definitions of dry, average, and wet conditions, but there is no definition for subsistence conditions. As currently written, §298.275(b) and (c) appear to conflict under dry conditions. In §298.275(c), the permit holder would never be able to divert below the base flows as defined in §298.280 under dry conditions.

With respect to three levels of base flow, after considering all relevant factors, including human needs for water and responses to comments, the commission is removing the hydrologic conditions and including only one level of base flow in the adopted standards. The adopted rule has been modified to delete hydrologic conditions and the average and wet base flow levels. This change will also clarify that a water rights owner cannot divert if flows are below the applicable subsistence flow and may divert down to the subsistence flow if flows are between the applicable base flow level and subsistence flow level. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

LGRT requests further clarification in proposed §298.275 on whether all flow conditions "reset" each month? In other words, does the standard reset to subsistence flow if other flow conditions were not maintained in the month prior (e.g., subsistence and base flows)?

The adopted rules state that each season is independent of the preceding and subsequent seasons with respect to high flow pulses. The subsistence and base flow standards are based on the flow conditions in the stream at the time a water right holder diverts water. To the extent that monthly values for these flow components are different in different months, the water right owner would only be able to divert if the flow requirement for that month is met. The commission notes that the adopted rule was modified in response to other comments, which should clarify this issue. The changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

EXHIBIT 1

LGRT suggests that §298.275 needs to reflect the following: given that subsistence flows are based on the median of the lowest 10th percentile of base flows, the proposed subsistence flows should not be considered the minimum required flow when site-specific data can be provided, or as better science is secured.

The commission respectfully disagrees with this comment. TWC, §11.147(e-3), expressly states that: "Notwithstanding Subsections (b) - (e), for the purpose of determining the environmental flow conditions necessary to maintain freshwater inflows to an affected bay and estuary system, existing instream uses and water quality of a stream or river, or fish and wildlife habitats, the commission shall apply any applicable environmental flow standard, including any environmental flow set aside, adopted under TWC, §11.1471, instead of considering the factors specified by those subsections."

TWC, §11.147(b) - (e) are the statutes regulating how the commission protected the environment prior to HB 3/SB 3. It is clear that the bill and TWC, §11.147(e-3), meant for the commission to place any environmental flow standards determined under TWC, §11.1471, in a permit for new water instead of using these other statutes and site-specific data. Under TWC, §11.1471(d), all new appropriations or increases in the storage, taking, or diversion of water issued after an environmental flow standard is adopted must contain the standard. The commission acknowledges that further data may need to be developed. However, HB 3/SB 3 contemplate that this new data and new studies will be considered through adaptive management. The rule was not modified in response to this comment.

LGRT requests further clarification in proposed §298.275 on how the executive director will implement pulse flows in evaluating applications when the WAM is based on a monthly time-step and how pulses will be addressed over a period of days when the executive director evaluates applications subject to the rules. LGRT comments that the rules need to clarify that, once pulse requirements for a season are met, no additional passage of pulse flows is required and water rights holders may immediately divert flows greater than the subsistence flow.

The SAC guidance document "Consideration of Methods for Evaluating Interrelationships Between Recommended SB-3 Environmental Flow Regimes and Proposed Water Supply Projects" notes that the monthly WAM is "recognized as the superior method with regard to effectively representing both water availability, consistent with the way TCEQ would evaluate a permit application, and e-flow requirements in the same analysis." To determine availability for future applications for new appropriations of water which are subject to these rules, the commission will use the TCEQ WAM. The commission also notes that individual permit applications are different; therefore, special conditions may need to vary for those permits. The commission will implement these standards in each permit granted for a new appropriation of water. At this point in the process the commission will examine permits as they come in to determine how to implement the standards in different permits.

A water right holder may divert or store water subject to special conditions in its permit. Once a pulse requirement is met, a water right holder may divert flows greater than the subsistence or base flows, depending on which flow requirement applies. The rule was modified in response to other comments. These changes can be found in §298.275(d)(1).

Big Thicket comments that the proposed rule may not adequately provide for sufficient fluvial sediment transport, fluvial geomorphic processes, and alluvial and estuarine sediment deposition. The reason for this is that the cumulative majority of sediment transport is expected to occur during high-pulse flows and overbank flows, and that under these recommendations these flow components may occur less frequently than the historical frequency of occurrence (high-flow pulses) or not be recommended (overbank flows). It is important to address sediment transport in future study under the work plan. Big Thicket recommends that monitoring of all flow components at the 11 measurement points in the basin, including scheduled and unscheduled high-flow pulses and naturally occurring overbank flows, be undertaken by TCEQ to gauge whether the historical frequency, duration, and magnitude of such flows is attained. The failure to attain high-flow and overbank flows, or other evidence of channel disequilibrium (e.g., reduction in bed-material load) could indicate insufficient sediment transport and the need to adaptively manage environmental flow standards.

The science team considered the best available science at the time these rules were developed. The commission agrees that this issue can be addressed in the workplan for the basin. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

NWFSCRC comments that the proposed rules do not describe how the determination is to be made about whether a measurement point "applies to a water right" and suggests adding the following sentence to the end of §298.275(b): "Permit conditions will be imposed, as appropriate, to establish individual permit subsistence flow values, based on a watershed area basis, in order to ensure that flows immediately below the diversion or storage point are adequately protected consistent with applicable flow standards." The rules should expressly provide for the commission to include language in individual permits specifying the applicability of measurement points as listed in the rules or specifying alternate measurement points, specific to the permit at issue, with associated flow levels. Those permit-specific conditions would reflect an appropriate adjustment of flow values to account for local considerations based on factors such as watershed-area ratio or significant springflow contributions and available channel-loss information. The rules should provide discretion for the commission to specify the appropriate measurement point and value in individual permits.

The commission agrees, in part, with this comment. For subsistence flows, a watershed area ratio may be appropriate. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission needs the flexibility to examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

NWFSCRC suggests inserting the word "applicable" into the first sentence of §298.275(b), so it reads as follows: "(b) Subsistence flow. For a water right holder . . . unless the flow at the measurement point is above the applicable subsistence flow standard."

The commission agrees and modified the rule to reflect this comment.

NWFSCRC comments that during normal and wet conditions, diversions should not be authorized below base flow levels and

EXHIBIT 1

suggests changing the second sentence of §298.275(b) to read as follows: "During dry hydrologic conditions, if the flow at the measurement point is above the subsistence flow standard but below the applicable base flow standard, then the water right holder may divert . . . ." It is important to make clear in the rules because the flow standards in §298.280 do not establish applicable subsistence flow values for average and wet conditions.

With respect to three levels of base flow and hydrologic conditions, after considering all relevant factors and responses to comments, including human needs for water, the commission is removing the hydrologic conditions and including only one level of base flow in the adopted standards. Hydrologic condition triggers were removed from the adopted rule, and the adopted rule only includes one level of base flows. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280. The rule was not modified in response to this comment.

LGRT comments that §298.275(b) - (d) includes provisions restricting an appropriator's right to store or divert water pursuant to its impoundment rights until certain hydrologic events have occurred, i.e., the subsistence requirement (b), the base flow requirement (c), or the pulse flow requirements (d) have each been met. LGRT comments that it should be made clear in these rules that an appropriator that has lawfully stored inflows pursuant to its water right, and in compliance with whatever environmental flow standard, regime, or requirement existed at the time of such storage, may lawfully divert water from storage, even when an environmental flow standard adopted pursuant to the rules would not allow the appropriator to store or divert inflows during such time period.

The commission agrees and has added §298.275(e) to the adopted rule to clarify this issue.

NWFSCRC comments that the proposed rules do not describe how the determination is to be made about whether a measurement point "applies to a water right." Language should be added to the rules explaining how that determination will be made for individual permits or amendments and suggests adding the following sentence to the end of §298.275(c): "Permit conditions will be imposed, as appropriate, to establish individual permit measurement points and base flow values, normally calculated on a watershed area basis, in order to ensure that flows immediately below the diversion or storage point are adequately protected consistent with applicable flow standards." The rules should expressly provide for the commission to include language in individual permits specifying the applicability of measurement points as listed in the rules or specifying alternate measurement points, specific to the permit at issue, with associated flow levels. Those permit-specific conditions would reflect an appropriate adjustment of flow values to account for local considerations based on factors such as watershed-area ratio or significant springflow contributions and available channel-loss information. The rules should provide discretion for the commission to specify the appropriate measurement point and value in individual permits.

The commission agrees, in part, with this comment. For base flows, a watershed area ratio may be appropriate. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission needs the flexibility to examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

NWFSCRC suggests changing the third sentence of §298.275(c) to read as follows: "For a water right holder to which an environmental flow standard applies . . . but below any applicable high flow pulse trigger levels. .. ."

The commission agrees and the rule was modified to reflect this comment.

LGRT, LNVA, SNBBASC, TXOGA, and UNRMWA comment that no requirement to pass through high flow pulses in excess of the SNBBASC recommended flow regime should be imposed on a water supply reservoir operator until a liability shield is in place.

The commission responds that the pulses it is protecting are not calculated to result in water flowing out of the banks of the river. A liability shield is beyond the scope of this rulemaking. The commission has no authority to require a liability shield for high flow pulses. The rule was not modified in response to this comment.

ANRA and FNI suggest adding language to §298.275 that specifically states that when the pulse criteria for the season have been met, no additional pulses are required and the water right holder does not have to cease diversions if a pulse trigger occurs.

Adopted §298.275 states that each season is independent of the preceding and subsequent seasons with respect to high flow pulses. The commission believes that this provision is adequate to convey that no catch up is required. A water right holder can divert or store water subject to special conditions in its permit. Once a pulse requirement is met, a water right holder can divert flows greater than the subsistence or base flows, depending on which flow requirement applies. The rule was not modified in response to this comment.

UNRMWA notes that the TCEQ proposes that a "water right holder shall not divert or store water" until a specified volume of water or duration of time has passed. This conflicts with the Sabine-Neches BBEST report which specified that "all inflow up to the high flow pulse peak value must be passed" until a specified volume of water or duration of time has passed. It is respectfully requested that the TCEQ modify or clarify its draft rules to provide for diversion or impoundment of inflows above the high flow pulse peak value to the extent available subject to senior water rights as recommended by the BBEST.

The commission acknowledges this comment. The adopted rule requires that a water right holder not divert or store water until the specified volume or duration requirements are met after the peak flow trigger level occurred. This requirement allows a water right holder to divert or impound flows above the high flow pulse peak value subject to the needs of senior water rights and other special conditions included in an individual permit. The rule was not modified in response to this comment.

TPWD believes that the schedule of high flow pulses in the proposed rules does not provide adequate flow variability and maintenance of critical ecological functions needed to maintain a sound ecological environment. While the BBEST classified a substantial majority of days as high flow pulse events, the proposed rules only provide for: 1) one small pulse per spring and summer during dry conditions; 2) two small pulses per season during average conditions; and 3) one large pulse plus two small pulses per season during wet conditions. The schedules of high flow pulses evaluated by the BBEST's consultant, the National Wildlife Federation, in its separate analyses of adequate freshwater inflows to Sabine Lake, and TWDB in its analysis of sediment transport, were all higher than that

EXHIBIT 1

ultimately recommended by the BBEST and proposed by the TCEQ. TPWD believes that because of the small size of the proposed high flow pulses, and the clear understanding that they be passed if naturally occurring (but not required to be produced by legally impounded water), that two small high flow pulses and one large high flow pulse be set as the standard for each season regardless of hydrologic condition. If a large high flow pulse occurs in the season, then it would count as one of the two required small high flow pulses.

The commission followed its instructions in the TWC to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission also considered staff's water availability analyses on the adopted standards. With respect to high flow pulses, after considering all relevant factors, including human needs for water, the commission is removing the hydrologic conditions and including only one level of base flow and one level of pulse flows in the adopted standards. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280. The rule was not modified in response to this comment.

NWFSCRC suggests changing the semicolon after "short-duration" to a comma in §298.275(d).

The commission agrees and the rule was modified to reflect this change.

NWFSCRC suggests changing the word "peak" to "pulse" throughout §298.275(d).

The commission agrees and the rule was modified to reflect this comment.

BRA comments that the sentence in §298.275(d)(1) "The water right holder shall not divert or store water until either the volume amount has passed the measurement point or the duration time has passed since the peak flow trigger rate occurred" imposes a condition inconsistent with the development of the hydrologic statistics that may result in an imbalance in the environment and water supply. It also imposes a condition that does not exist in nature. In many cases a water supply diversion would have minimal impact on the characteristics and ecological functions of a pulse, and curtailment of that diversion would not truly enhance the environment. It is recommended that diversions should not be curtailed but regulated during a high flow pulse. Several ideas that may be used to regulate diversions during a high flow pulse event include: 1) apply a diversion rate limit based on percent impact to the pulse; 2) apply a "diversion rate threshold" to establish a constant diversion rate limit during pulses; and 3) allow diversion limited to the difference between the actual peak discharge of the pulse and the high flow pulse criteria. Lastly, since statistics used to define the pulse days and pulse volume were based on the entire pulse, from start to finish and not from peak to finish, it is recommended that: 1) the water right holder be allowed to divert once the volume and the peak or the duration and the peak are met from the beginning of the high flow pulse event; or 2) recalculate the volume and duration flow recommendations beginning at the peak of the high flow pulse.

The commission acknowledges the comment. These are interesting concepts that future science teams may want to consider and the science team for this basin may also want to consider as it studies conditions in the basins for the next round of recommendations. The commission considered the recommendations of the science team and stakeholders for the basin and bay systems. The adopted rule was based in part on the specific recommendations of the expert science team. The comments to the proposed rule provided by the stakeholder group in this area did not make changes to the science team recommendation. While other methods to implement and manage high flow pulse requirements may be recommended in other areas, these rules were not modified in response to this comment.

NWFSCRC comments that the proposed rules do not describe how the determination is to be made about whether a measurement point "applies to a water right" and suggests changing the first sentence of §298.275(d)(1) to read as follows: "Two smaller magnitude pulses per season are to be passed (i.e., no storage or diversion by the applicable water right holder), if the hydrologic conditions is average or wet, and if the applicable pulse flow trigger level is met at a measurement point that applies to the water right." In addition, the third sentence of §298.275(d)(1) should be modified by replacing "the measurement point" with "an applicable measurement point."

NWFSCRC also suggests inserting the following sentence between the second and third sentences of §298.275(d)(1): "Permit conditions will be imposed, as appropriate, to establish individual permit measurement points and pulse flow values, normally calculated on a watershed area basis, in order to ensure that flows immediately below the diversion or storage point are adequately protected consistent with applicable flow standards." The rules should expressly provide for the commission to include language in individual permits specifying the applicability of measurement points as listed in the rules or specifying alternate measurement points, specific to the permit at issue, with associated flow levels. Those permit-specific conditions would reflect an appropriate adjustment of flow values to account for local considerations based on factors such as watershed-area ratio or significant springflow contributions and available channel-loss information. The rules should provide discretion for the commission to specify the appropriate measurement point and value in individual permits.

Although it is possible that a watershed area basis may be appropriate for subsistence or base flows, time lag effects and tributary stream effects would make this method inappropriate for translating pulse flow conditions to other points in the watershed. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. In addition, the measurement point that would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. Individual permit applications are different; therefore, special conditions may need to vary for those permits. The rule was not modified in response to this comment.

NWFSCRC comments that based on its understanding of the BBEST recommendations on which the proposed rules are based, flows above the specified peak flow trigger rate could be available for diversion even prior to the time that the flow volume has been satisfied or the pulse duration has been satisfied. NWFSCRC proposes changing the second sentences of §298.275(d)(1) and (2) to read as follows: "The water right holder shall not divert or store water, except during times that

EXHIBIT 1

flows immediately downstream equal or exceed the applicable pulse flow trigger rate, until either the volume amount has passed the measurement point, or the duration time has passed since the pulse flow trigger rate occurred."

The commission agrees and the rule was modified, in part, to reflect this comment. The modification did not include the language "immediately downstream" because the measurement point that would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. In addition, the commission also modified the adopted rule to add §298.275(e) to clarify that a water right holder who has lawfully stored inflows pursuant to its water right in compliance with these standards, may divert that water from storage during a later time period, even when an environmental flow standard adopted pursuant to the rules would not allow the appropriator to store or divert inflows during that later time period.

TPWD comments that for high flow pulses, the draft rules appear to require passage of all flows until either the volume or duration is achieved. Section 298.275(d)(1) states "The water right holder shall not divert or store water until either the volume amount has passed the measurement points, or the duration time has passed since the peak flow trigger rate occurred." However, in oral descriptions of the intent of this text, the TCEQ has allowed that diversions above the peak flow trigger rate would be permissible. This latter interpretation is consistent with the BBEST recommendation, but it seems contrary to the proposed rule. TPWD supports the diversion prohibition. At a minimum, it would appear that the rule text should be modified for clarity.

The adopted rule requires that a water right holder not divert or store water until the specified volume or duration requirements are met after the peak flow trigger level occurred. This requirement allows a water right holder to divert or impound flows above the high flow pulse peak value subject to the needs of senior water rights and other special conditions included in an individual permit. The rule was not modified in response to this comment.

TPWD believes that a simple passage of the required duration is inadequate and that both duration and volume should be protected, as in the following suggested text for §298.275(d)(1): "The water right holder shall not divert or store water below the peak flow trigger rate until both the volume amount has passed the measurement points and the duration time has passed since the peak flow trigger occurred."

The commission respectfully disagrees with this comment because requiring both the volume and duration requirements to apply would be inconsistent with how the requirements were derived and with the BBEST recommendations. The rule was not modified to reflect this comment.

NWFSCRC comments that the proposed rules do not describe how the determination is to be made about whether a measurement point "applies to a water right" and suggests changing the first sentence of §298.275(d)(2) to read as follows: "During wet conditions and in addition to the two smaller-magnitude pulses, a single larger-magnitude pulse must be passed if the applicable pulse flow trigger level is met at a measurement point that applies to the water right." In addition, the second sentence of §298.275(d)(2) should be modified by replacing "the measurement point" with "the applicable measurement point." NWFSCRC also suggests adding the following sentence to the end of §298.275(d)(2): "Permit conditions will be imposed, as appropriate, to establish individual permit measurement points and pulse flow values, normally calculated on a watershed area basis, in order to ensure that flows immediately below the diversion or storage point are adequately protected consistent with applicable flow standards."

The rules should expressly provide for the commission to include language in individual permits specifying the applicability of measurement points as listed in the rules or specifying alternate measurement points, specific to the permit at issue, with associated flow levels. Those permit-specific conditions would reflect an appropriate adjustment of flow values to account for local considerations based on factors such as watershed-area ratio or significant springflow contributions and available channel-loss information. The rules should provide discretion for the commission to specify the appropriate measurement point and value in individual permits.

The commission agrees, in part, with this comment. For subsistence flows, a watershed area ratio may be appropriate. The commission agrees that it will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. In addition, the measurement point that would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. Individual permit applications are different; therefore, special conditions may need to vary for those permits. The rule was not modified in response to this comment.

NWFSCRC comments that based on its understanding of the BBEST recommendations on which the proposed rules are based, flows above the specified peak flow trigger rate could be available for diversion even prior to the time that the flow volume has been satisfied or the pulse duration has been satisfied. NWFSCRC proposes changing §298.275(d)(2) to read as follows: "A water right holder shall not divert or store water, except during times that flows immediately downstream equal or exceed the applicable pulse flow trigger rate, until either the volume amount has passed the applicable measurement point, or the duration time has passed since the pulse flow trigger rate occurred."

The commission agrees and the rule was modified, in part, to reflect this comment. The modification did not include the language "immediately downstream" because the measurement point that would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. In addition, the commission also modified the adopted rule to add §298.275(e) to clarify that a water right holder who has lawfully stored inflows pursuant to its water right in compliance with these standards, may lawfully divert that water from storage, even when an environmental flow standard adopted pursuant to the rules would not allow the appropriator to store or divert inflows during a later time period.

BRA comments that it is beneficial to state that a water right holder is not required to produce a pulse from storage and that pulses occur because of high rainfall events. This statement as currently drafted in the proposed rules adds clarity to the expec-

EXHIBIT 1

tation on the actions required for meeting pulse requirements. No change to this language is recommended.

The commission acknowledges this comment.

BRA comments that the importance of the concept of seasonality is recognized considering a linkage between flow and ecology is established. BRA agrees, as stated, that there should be no requirement for carry-over of pulse requirements from one season to another, if the previous season did not meet its pulse minimum. Trying to "catch up" in the summer quarter for a missed pulse in the spring quarter will do little to help aquatic species. This "catch-up" issue is discussed in the Background and Summary of the proposed rules but is not clearly articulated in §298.275(d)(4). It is recommended that language in this section be clarified to articulate that there is no need for "catch-up" if the mandated pulses are not observed in one season.

The adopted rules for this basin and bay system state that each season is independent of the preceding and subsequent seasons with respect to high flow pulses. This provision is adequate to convey that no catch up is required. As stated in the preamble, if, in a particular season, depending on the seasonal requirement, either none or one of the high flow pulses identified in the adopted rule is generated, then there would be no need to "catch up" or allow more than one or two high flow pulses to pass in the following season. The rule was not modified in response to this comment.

§298.280, Environmental Flow Standards

SNBBASC proposes that the TCEQ replace its proposed environmental flow standards with those submitted in Table 1, which includes seasonal subsistence flows and seasonal base flows equal to the dry condition base flows in the proposed rule. It also includes one pulse per season for Spring and Fall; the pulse trigger, volume, and duration are equal to those for the small pulse in the proposed rule. Measurement points are the same with the exception of Sabine River near Bon Wier, which is proposed to not be used at this time.

The commission agrees that USGS gage 08028500, Sabine River at Bon Weir, should not be used as a measurement point at this time and the adopted rule does not include this point. With respect to the number of pulse flows, including only one pulse per season for the Spring and Fall would not be sufficiently protective of the environment. A sufficient number of pulses are required to ensure adequate inflows to Sabine Lake. The adopted rule requires one pulse per season in the Summer and Winter, and two pulses per season in the Spring and Fall, with the pulse trigger, volume and duration equal to the small pulse in the proposed rule. In addition, in response to comments related to low flow levels, specific values for the base flow standards for all of the measurement points in the adopted §298.280 were increased.

NWFAF and more than 1,600 individuals comment that the proposed subsistence flow levels are too low and should be increased. BTA would like to see higher subsistence flow standards. Those in the TCEQ proposals are a bit too low. The subsistence flow standards are extremely important for the salinity of Sabine Lake and the accompanying marshes. Those marshes are the nursery for a large amount of both fin fish and shell fish, which are very important for commercial reasons and recreation. Big Thicket and Texas Conservation Alliance support the strengthening of the subsistence flow values across all measurement points in the proposed rule, recalculating subsistence flow as the 5th percentile flow. NWFSCRC comments that the subsistence flow levels should be increased to reflect the flow value that has been exceeded 95% of the time over the full period of record. The recommended flow values are inadequate and certainly do not allow a margin of safety adequate to account for the reality that it will not be possible to achieve perfect implementation of the new standards. NWFSCRC also comments that, as noted by TPWD, the use of such low flow values, generally in the 1st to 3rd percentiles, could, as water use increases, lead to serious impacts to fish and wildlife resources. TPWD proposes a schedule of subsistence flow values to be placed in the tables in §298.280.

Commission staff reviewed the numerical values in the proposed standards in response to comments and performed a water quality analysis on the adopted standards. The water quality analysis considered the relationship between streamflow and the water quality parameters identified by the science team to look for trends and criteria excursions. This analysis did not identify any areas of concern. The commission acknowledges that there is less data available at lower flow levels. This issue may be addressed in the workplan for this bay and basin system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

Big Thicket suggests that constraints be placed upon the environmental flow standard tables to ensure that subsistence flow does not occur more frequently or for longer durations than have occurred in the pre-impoundment hydrologic record. These additional constraints could be described much as high-flow pulses are currently, with an attainment frequency maximum (e.g., x per season), a trigger, and a maximum duration based on the hydrologic record.

The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, and comments on the proposed standards when drafting the adopted rules. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, provide sufficient protection at lower flow levels. HB 3/SB 3 contemplate that this data and new studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

One individual comments, as a member of the Sabine-Neches BBEST, on the necessity of providing minimum flows to these ecosystems. The report prepared by the BBEST represented at best bare minimum flows that will sustain a sound ecological environment in these rivers and in Sabine Lake. These flows were reached by compromise between the biological subcommittee and the rest of the BBEST and are already dangerously low. Reducing all base flows to dry base, along with potentially greater frequency of occurrence of subsistence flows, will be damaging to these ecosystems. There is a great deal of scientific literature from this and the other basins that substantiate this, along with the information contained in the BBEST Biological Overlay section.

The commission followed its instructions in the TWC to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups,

EXHIBIT 1

other relevant factors, comments on the proposed standards, and alternate recommendations when drafting the adopted rules. In addition, the commission considered staff's water availability analyses on the adopted standards, which evaluated the effects of the proposed standards on human and other competing needs for water. Some changes to the adopted rule were made in response to other comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

Friends of the Neches River, Texas Conservation Alliance, and more than five individuals comment that the proposal by the Sabine/Neches BBASC to reduce normal base flows to levels only encountered during infrequent droughts will be damaging to these ecosystems.

The commission followed its instructions in the TWC to determine these flow standards. It considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations when drafting the adopted rules. In addition, the commission considered staff's water availability analyses on the adopted standards, which evaluated the effects of the proposed standards on human and other competing needs for water. Some changes to the adopted rule were made in response to other comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

TPWD believes that, as part of a full environmental flow regime, the schedule of base flows in the proposed rules is minimally adequate to maintain a sound ecological environment. The BBEST classified much of the hydrograph as high flow pulses, thereby diminishing the statistical computation of base flows. This, combined with the implementation rules, results in relatively low potential streamflows.

After consideration of all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations, some changes were made to the adopted rule in response to other comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

Two individuals comment that the proposed flows are inadequate because they reduce normal base flows to levels only encountered during infrequent droughts.

After consideration of all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations, some changes were made to the adopted rule in response to other comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

Friends of the Neches River, Texas Conservation Alliance, and more than five individuals comment that capturing and storing the high flow pulses necessary for spawning triggers and habitat maintenance for both estuarine and riverine species during dry seasons will be incredibly damaging.

The commission respectfully disagrees with the comment. After consideration of all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations, some changes were made to the adopted rule in response to other comments. The adopted rule requires one high flow pulse in the Summer and Winter and two high flow pulses in the Spring and Fall. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

One individual comments that bare minimum high flow pulses were prescribed in the BBEST recommendations. Any reduction in these pulses will not provide necessary spawning triggers and habitat maintenance. The science of instream flows has progressed to the point where we do understand the necessity of these flow components and the damaging ecological consequences of not providing necessary flows at critical seasons.

After consideration of all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations, some changes were made to the adopted rule in response to other comments. The adopted rule requires one high flow pulse in the Summer and Winter and two high flow pulses in the Spring and Fall. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

USFWS recommends that the TCEQ include dry condition, dry season high pulse flow events in the standards to ensure that natural resources are protected. There are currently no high flow pulses proposed for Summer and Fall during dry conditions. However, high pulse flows under dry conditions during the two driest seasons would be critical in ensuring that when these flows do occur in the dry period, that wetting of riparian areas is sufficient to maintain the wetland dependent tree species present and to minimize the encroachment of upland species. These high pulse flows have been shown to be important for a variety of tree species and vegetation communities. Flooding of riparian wetland bodies such as oxbows, sloughs, and other water bodies are critical for several species of wetland dependent fish, bird, amphibian, reptile, and mammal species. There are distinct vegetation communities associated with river systems and flooding frequencies. For Texas rivers, this is most apparent in the Sabine basin. The high pulse flows are extremely important in maintaining vegetation communities that are represented in no other basin in Texas in such magnitude and diversity. High pulse flows are very important to maintain these systems. While we expect high pulse flows to be infrequent during the dry period, it should be recognized that they are extremely important and ensure that organisms survive and for short-lived species, in allowing for successful reproduction and population maintenance.

After consideration of all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations, some changes were made to the adopted rule in response to other comments. The adopted rule requires one high flow pulse in the Summer and Winter and two high flow pulses in the Spring and Fall. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the

EXHIBIT 1

modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

Two individuals comment that the lack of seasonal fluctuations in flows will be damaging to these ecosystems and in particular to the state listed rare, endangered, and threatened species that rely on these aquatic habitats. These stream systems and their inhabitants rely on periodic high flow pulses for spawning and habitat maintenance, particularly during dry seasons. It is not clear how the TCEQ can recommend inadequate flows when state listed species rely on these systems. Not enough is known about these species to determine the effects of reduced flows on their survival. Presumably, if they are already listed, they are struggling to adapt to a changing landscape. The State of Texas devotes considerable resources to identifying and describing species that are endemic to the Sabine and Neches rivers, and protecting these instream flows to the greatest extent possible could be the most important action the TCEQ takes to protect these species.

After consideration of all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations, some changes were made to the adopted rule in response to other comments. The commission acknowledges that further data may need to be developed to quantify the relationship between stream flows and species needs. However, HB 3/SB 3 contemplate that this data and new studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations.

NWF comments that overall, the proposed rule on Sabine is good in reflecting seasonal variation and inter-annual variation on the instream flow side.

The commission acknowledges the comment but points out that after consideration of all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations, some changes were made to the adopted rule in response to other comments. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

One individual requests that the TCEQ increase the amount of water allocated for environmental flows in the Sabine and Neches Rivers into Sabine Lake; the proposed flow standards are fairly low compared to historical conditions.

After consideration of all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations, some changes were made to the adopted rule in response to other comments. Hydrologic condition triggers and average and wet base flows were deleted and high flow pulse requirements were modified. In addition, in response to comments related to low flow levels, specific values for the base flow standards for all of the measurement points in the adopted §298.280 were increased. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

NWFAF and more than 1,600 individuals comment that the standards should acknowledge the importance of protecting overbanking flows which are essential for maintaining bottomland hardwood forest habitat. Big Thicket comments that overbank flows are a critical component of an environmental flow regime, with many well-recognized ecological benefits. Less appreciated are the direct and indirect human benefits: recharge of floodplain groundwater helps to return water to the channel in later periods of drought and periodic inundation of bottomland hardwood sites managed for conservation provides flood mitigation downstream. Big Thicket does not recommend the deliberate production (through intentional water releases) of an overbank flow to a developed area of the floodplain; however, it likely that such events will occur naturally and occur on conservation sites. Big Thicket recommends that overbank flows be defined in the rule, and that such flows as naturally occur be monitored for their magnitude, duration, volume, and effects on the floodplain. TPWD comments that if the freshwater inflow recommendations proposed by the BBEST are the only inflows to Sabine Lake, the result would be inflows substantially lower than those experienced historically and could subsequently increase salinities farther upstream, with Rangia populations moving upstream in a like manner. To ensure an ecologically sound environment in the Sabine Lake Estuary, TPWD supports the BBEST recommendation but would augment freshwater inflow to Sabine Lake to periodically provide higher inflow volumes. Figure 12 of the BBEST recommendation report demonstrates that inflow volumes augmented by periodic overbank flow events achieve inflow volumes recommended by TPWD. TPWD acknowledges the BBEST's decision to recognize, rather than recommend, overbank flood events due to the potential for damage to private property and threats to human safety. However, in instances where these events can safely occur, a sound ecological environment in Sabine Lake is but one of the many environmental benefits provided by overbank flood events. Texas Conservation Alliance urges the TCEQ to strengthen the draft rule by including a provision for naturally-occurring overbanking flows. Ecologists familiar with the bottomland ecosystems of the Sabine and Neches Rivers, particularly with Big Thicket ecosystems, are well aware of the crucial nature of overbanking flows in maintaining those habitats. Failure to provide adequate overbanking flows could be devastating to the biodiversity of the Neches and Sabine bottomland hardwood forests and to the world-renowned diversity of the Big Thicket National Preserve. BTA would also like to see the standards accept out of bank flows and notes that the Neches floodplain, which is the focal feature of the Big Thicket National Preserve, depends on occasional floods. If these are not allowed or are prevented by legal management, the ecology of the Big Thicket and that entire environment will greatly change.

The commission acknowledges that the overbank flows are a component of a flow regime for a sound ecological environment and has modified the Section by Section discussion of §298.1 in the preamble to reflect this acknowledgement. Overbank flows are a result of naturally occurring large rainfall events, which will likely continue to occur. The commission notes that monitoring of these naturally occurring events could be included as part of the workplan for this basin and bay system. However, the commission is not including overbank flows as a component of the adopted standards. The rule was not modified in response to this comment.

ANRA, DWU, LGRT, LNVA, SRA Texas, SRA Texas and Others, TXOGA, and UNRMWA suggest adopting the qualified flow regime recommended by the Sabine and Neches Rivers and

EXHIBIT 1

Sabine Lake Bay BBASC in its December 7, 2010 submission of comments and recommendations.

The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations. Some changes were made to the adopted rule in response to these comments. The commission agrees that the Sabine River at Bon Weir USGS gage should not be used as a measurement point at this time and the adopted rule does not include this point. With respect to the number of pulse flows, including only one pulse per season for the Spring and Fall would not be sufficiently protective of the environment. The adopted rule requires one pulse per season in the Summer and Winter, and two pulses per season in the Spring and Fall, with the pulse trigger, volume, and duration equal to the small pulse in the proposed rule. Hydrologic condition triggers and average and wet base flows were also deleted. In addition, in response to comments related to low flow levels, specific values for the base flow standards for all of the measurement points in the adopted §298.280 were increased. These changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

SRA Texas suggests that the TCEQ not establish additional freshwater inflow requirements for the estuary.

The commission agrees with this comment. Neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. Therefore, the commission did not include these requirements in the adopted standards.

Big Thicket comments that a notable gap in the proposed rule is the recommendation that fluvial matrices (i.e., the HEFR-calculated stream inflow values) are adequate for maintaining a sound ecological environment downriver in the estuary, leaving the tidal reaches of the Neches River and the Sabine River and the Sabine-Neches estuary in an unmeasured state with regard to environmental flow. Big Thicket is concerned that the proposed environmental flow standards (e.g., 228 cfs at Evadale for Summer, dry, subsistence flow) would be insufficient to prevent saltwater intrusion from impacting freshwater marsh and cypress-tupelo wetlands. The final recommendations from the Sabine-Neches BBEST contained a reduction in flows from preliminary versions that had been used as the basis of estuarine analyses in the report. Big Thicket recommends that the estuarine analyses be performed again using the proposed (not the preliminary) environmental flow standard and that interim freshwater flow standards be established for Sabine Lake to ensure that sufficient volumes of freshwater are provided, by season, based upon volumes attained during the pre-impoundment hydrologic record.

Neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. After reviewing the information from these groups, the commission did not include freshwater inflow requirements in the adopted standards. Pulse flow requirements in permits for new appropriations of water and naturally occurring flood events should provide sufficient freshwater inflows to Sabine Lake. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient freshwater inflows to Sabine Lake. However, HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

UNRMWA notes that the TCEQ states that "the science team did not recommend bay and estuary standards for Sabine Lake Bay." This is clearly in conflict with the BBEST report which states in Recommendation 9 page that "fluvial matrices inflow recommendations are adequate to maintain a sound ecological environment in the Sabine-Neches Estuary." More specifically, the BBEST stated that flow component recommendations for the Sabine River near Ruliff, Neches River at Evadale, Village Creek near Kountze, and other ungaged inflows are adequate to maintain a sound ecological environment in the Sabine-Neches estuary. It is respectfully requested the TCEQ modify or clarify its draft rules for consistency with the Sabine-Neches BBEST report.

The commission acknowledges that the report includes the stated comment. However, neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. The rule was not modified in response to this comment.

NWF comments that with respect to the bay, there isn't a specific recommendation other than saying if instream flows are adequately protected, then that should be adequate for the bay. The proposed rules are not clear that the instream flows would be protected all the way to Sabine Lake. That's a critical assumption in the BBEST report, and so it's critically important that the rules do address that.

The commission agrees that neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. Therefore, the commission did not include freshwater inflow requirements in the adopted standards. Pulse flow requirements in permits for new appropriations of water and naturally occurring flood events should provide sufficient freshwater inflows to Sabine Lake. The adopted rules provide specific flow requirements at downstream measurement points in the bay and basin system. How those measurement points would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

NWFAF and more than 1, 600 individuals comment that the standards should expressly provide for the protection of freshwater inflows into Sabine Lake.

Neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. Therefore, the commission did not include freshwater inflow requirements in the adopted standards. The rule was not modified in response to this comment.

USFWS comments that there are currently no environmental inflow standards proposed for the Sabine Lake estuary. The Sabine Lake estuary is an exceptionally diverse and productive system. It is unique in its salinity regime, geology, and its

EXHIBIT 1

complimentary ecological communities from other bays in Texas. This system has lost significant resources, specifically wetlands, due to the effects of salinity intrusion, subsidence, and sea level rise. This estuary is an extremely important nursery for commercially important species including blue crabs, white shrimp, and Gulf menhaden. The Chenier Plain wetland communities in both Texas and Louisiana are in constant struggle to balance salinity issues, wetland loss, and fisheries productivity. Freshwater inflows into this estuary can be extremely critical to ensure this balance is maintained. Conservation lands that are threatened by reductions in freshwater flows include the Nelda Stark Wildlife Management Area (WMA), Texas Point National Wildlife Refuge (NWR), McFaddin NWR, Sea Rim State Park, J.D. Murphree WMA, and Sabine NWR. The commercial and recreational value of these areas to anglers, hunters, and wildlife watchers is substantial. USFWS encourages the state to revisit the proposed standards and incorporate a flow regime standard for freshwater inflows into Sabine Lake to ensure that these resources are conserved into the future and meet the SB 3 charge.

Neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. Therefore, the commission did not include freshwater inflow requirements in the adopted standards. Pulse flow requirements in permits for new appropriations of water and naturally occurring flood events should provide sufficient freshwater inflows to Sabine Lake. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient freshwater inflows to Sabine Lake. However, HB 3/SB 3 contemplate that those additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

USFWS comments that the Sabine-Neches BBEST's comparison of the State Methodology results and HEFR-generated flow component results demonstrates that the use of HEFR-generated flow components are lower than those developed with the State Methodology and therefore may be insufficient to maintain the estuary. USFWS believes providing an estuarine inflow standard is imperative given that requirements associated with any water right granted cannot be raised beyond 12.5%. If there is no standard for estuarine flow in the proposed rule, then there will never be a freshwater inflow requirement on any future permit nor any mechanism to revisit those permits and incorporate a freshwater inflow requirement. This lack of a proposed standard for estuarine inflows appears to be inconsistent with the intent and purpose of the SB 3 legislation, which states that " . . . the foundation of work accomplished by the state should be improved." Accordingly, USFWS recommends that the TCEQ establish environmental flow regime standards for the estuary and also address the difference between the HEFR-generated flow component results and the State Methodology results in those standards.

Neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. Therefore, the commission did not include freshwater inflow requirements in the adopted standards. Pulse flow requirements in permits for new appropriations of water and naturally occurring flood events should provide sufficient freshwater inflows to Sabine Lake. The commission acknowledges that further analyses and studies may need to be performed in the future to determine whether the adopted standards, once implemented, are providing sufficient freshwater inflows to Sabine Lake. However, HB 3/SB 3 contemplate that those additional analyses and studies can be considered through adaptive management via the workplan for this basin and bay system. To the extent that additional information becomes available through monitoring and studies undertaken under the workplan, the science team could consider that information in future deliberations. The rule was not modified in response to this comment.

BRA comments that although it appears to be the intent of proposed §298.280 to have diversion or storage controlled by a single downstream measurement point, the proposed rules do not clearly state this intent. It would be beneficial to define where flow standards will be enforced in relation to a "measurement point," as it may not be intuitive in all circumstances. Issues may arise when one measurement point has higher flow standards than another when either one could be used to regulate a single diversion. It is recommended that the diversion be regulated by only the nearest downstream "measurement point" since the impacts of a diversion are unlikely to significantly impact streamflow at measurement points several travel days downstream.

The measurement point that would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. Individual permit applications are different; therefore, special conditions may need to vary for those permits. The rule was not modified in response to this comment.

UNRMWA comments that it is not clear how permittees will be required to adhere to the environmental flow standards that are ultimately adopted. In addressing implementation, the executive director should clarify and adopt language that will not require permittees to adhere to all flow standards in the basin, but only a gage location near a proposed new appropriation of water. Without doing so, future permittees with authorizations issued subject to the rules could be subject to an overbearing task of monitoring conditions throughout the basin prior to diversion.

The adopted rules provide specific flow requirements at specific measurement points in the bay and basin system. How those measurement points would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

NWFSCRC comments that the dry-year protected freshwater inflows to Sabine Lake in the proposed standards are very low in relation to the historical gaged flow, the current default methodology, and the State Methodology (MinQsal). On the basis of cumulative freshwater inflow volume (1977-1996), the proposed standards would protect less total inflow than the current default (Lyons) approach. Protection under the recently submitted BBASC proposal would approximate the dry-year level of inflows in the proposed standards, even during wet years. The already marginal levels of inflows that would be protected under the proposed standards would be reduced to grossly unac-

EXHIBIT 1

ceptable levels under the suggested approach. Protections for seasonal variations would be minimized and protection for inter-annual variations would disappear. Only a dry-year level of inflows, lower than the lowest levels of recommendations from the State Methodology, would ever be protected. There is already uncertainty about the adequacy of the levels of freshwater inflows protected by the BBEST's recommendations, and by the proposed standards, to maintain salinity levels consistent with protection of brackish marsh communities.

Neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. Therefore, the commission did not include freshwater inflow requirements in the adopted standards. Pulse flow requirements in permits for new appropriations of water and naturally occurring flood events should provide sufficient freshwater inflows to Sabine Lake. The adopted rules provide specific flow requirements at downstream measurement points in the bay and basin system. How those measurement points would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

LGRT, LNVA, SNBBASC, SRA Texas, TXOGA, and UNRMWA comment that the Sabine River near Bon Wier USGS gage should not be used as a measurement point due to discrepancies in flow measurements and the Sabine River near Ruliff USGS gage should be used to exclusively represent environmental flow standards for the lower Sabine River.

The commission agrees with this comment, and the adopted standards do not include a measurement point at the Sabine River near Bon Weir USGS gage.

TPWD comments that it is aware that some of the proposed flow standards are numerically higher at the Sabine River near Bon Wier site than at the (downstream) Sabine River near Ruliff site. This result is a function of the different hydrologic patterns at these locations and the decisions made by the BBEST in their hydrographic separation. TPWD is not aware of any evidence that either of these USGS flow gages is in error, nor is there any reason to eliminate one or both of these sites from inclusion in the rules. TPWD is happy to discuss this further, should a more complete explanation be desired. NWFSCRC comments that there is much greater disparity between the default methodology flows and the recommended standards for Ruliff than for Evadale. Unless and until it is clearly established that the Ruliff flow standards are adequately protective throughout the relevant upstream reach, the Bon Wier measurement point and applicable standards must be maintained in the standards.

The commission considered all of the recommendations provided by the science team and the stakeholder groups, other relevant factors, comments on the proposed standards, and alternate recommendations. Some changes were made to the adopted rule in response to these comments. The adopted rule does not include the Sabine River at Bon Weir USGS gage as a measurement point because of issues related to the calculation of flows at this gage. Further analyses can be performed in the future to determine appropriate flow requirements for this location. HB 3/SB 3 contemplate that additional analyses and studies can be considered through adaptive management via the workplan. The changes are discussed in the adoption preamble for §298.275 and §298.280, and the modified numerical values and flow levels can be found in the adopted standards for §298.275 and §298.280.

TPWD comments that no specific freshwater inflow recommendation for Sabine Lake is included in the draft rule; however, TPWD recommends that the BBEST's intent to protect instream flows at Ruliff downstream to Sabine Lake be reflected in the environmental flow standards. Without such language, the environmental flow standards provide no protection for freshwater inflows to Sabine Lake. TPWD recommends adding the following sentence to the end of §298.280(6): "These environmental flow standards will also apply downstream of Ruliff to the confluence of the Sabine River with Sabine Lake."

Neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. Therefore, the commission did not include freshwater inflow requirements in the adopted standards. The adopted rules provide specific flow requirements at downstream measurement points in the bay and basin system. How those measurement points would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

NWFSCRC comments that the small pulse flow volume listed in the figure in §298.280(8), Neches River at Rockland, for the Fall season is not correct. With a pulse trigger of 515 cfs and a duration of eight days, a volume of 649 acre-feet does not make sense. That same erroneous value appears in the BBEST report. Because a volume of 6,490 acre-feet does appear to be about right and could be explained by a simple error of not entering a zero, we suggest that a pulse volume of 6,490 acre-feet be used.

The commission agrees with this comment, and the rule was modified to reflect this change.

TPWD comments that no specific freshwater inflow recommendation for Sabine Lake is included in the draft rule; however, TPWD recommends that the BBEST's intent to protect instream flows at Evadale downstream to Sabine Lake be reflected in the environmental flow standards. Without such language, the environmental flow standards provide no protection for freshwater inflows to Sabine Lake. TPWD recommends adding the following sentence to the end of §298.280(10): "These environmental flow standards will also apply downstream of Evadale to the confluence of the Neches River with Sabine Lake."

Neither the science team nor the stakeholders recommended specific freshwater inflow requirements for the estuary. Therefore, the commission did not include freshwater inflow requirements in the adopted standards. Pulse flow requirements in permits for new appropriations of water and naturally occurring flood events should provide sufficient freshwater inflows to Sabine Lake. The adopted rules provide specific flow requirements at downstream measurement points in the bay and basin

EXHIBIT 1

system. How those measurement points would be applicable to a water right depends on the specific fact situation for an application for a new appropriation of water. The measurement point applicable to a specific application could take into consideration the geographic extent of the impacts resulting from that application. The commission will implement these standards in each permit granted for a new appropriation of water. However, at this point in the process, the commission will examine permits as they come in to determine how to implement the standards in different permits. The rule was not modified in response to this comment.

§298.285, Water Right Permit Conditions

LGRT, LNVA, SNBBASC, SRA Texas, TXOGA, and UNRMWA comment that the impact on the annual minimum firm yield of a water supply project should not exceed 10% of the amount of appropriated water that is subject to the environmental flow standards.

The commission respectfully disagrees with this comment. In order to address its requirement to consider the human and other competing water needs in this basin and bay system, commission staff performed a water availability analysis on the adopted standards. The results of this analysis indicated that there would be no significant impact from implementation of the adopted standards. To the extent that balancing already occurred during the development of the adopted standards, further balancing on an application specific basis would be inappropriate. Additionally, such further balancing is not contemplated in the statute. The rule was not modified in response to this comment.

TPWD notes that proposed §298.285 sets a limit for applying high flow pulse requirements to water rights that are greater than 10,000 acre-feet/year. TPWD agrees that certain appropriations may not require a permit condition to protect high flow pulses, but believes that the criterion used to set an exemption threshold should be based on a water right's maximum authorized diversion rate and not on authorized annual diversion amount. In some instances at tributary and other locations, the 10,000 acre-feet/year exemption amount exceeds recommended pulse volumes. For example, the summer season small high flow pulse volume at Big Sandy is only 671 acre-feet and the peak flow is only 50 cfs. This suggests that a 10,000 acre-feet/year diversion could significantly impact the proposed high flow pulses depending on the permit's authorized maximum diversion rate. TPWD is concerned about the potential cumulative effect of exemptions from the high flow pulse flow requirement on downstream high flow pulse characteristics. TPWD recommends that TCEQ adopt a rule for exemptions that sets a diversion rate threshold based on high flow pulse initiation triggers and limits the potential cumulative impacts on required high flow pulse that might result from the exercise of all such exempt permits to less than 10%. TPWD staff suggests the following alternative language for the appropriate sentences of §298.285: "Water right permits with a cumulative maximum diversion rate less than 10% of the smallest high flow pulse trigger flow as measured at the most immediate downstream environmental flow standard location shall not be subject to the special conditions relative to high flow pulses."

Time lag effects and tributary stream effects would make using a percentage of the pulse flow trigger inappropriate for translating the impacts of specific diversion rates for individual water rights into impacts on downstream pulse flow conditions. A water right diversion of 10,000 acre-feet would be unlikely to occur over a small number of days. In the event that such a situation occurred, only one pulse event would likely be impacted. Using a maximum diversion amount is a more straightforward method for determining whether pulse flow requirements should be included in special conditions of a water right permit. The rule was not modified in response to this comment.

NWFSCRC comments that 10,000 acre-feet per year of diversion or storage is an inappropriate cut-off point for exemption from complying with the pulse flow standards. Because many of the pulse flow proposals involve a total volume of less than 10,000 acre-feet, this exemption would allow these new water rights to fully capture pulse flows that are required to be passed by other holders of new water rights. That would frustrate the intended environmental flow protections and would be unfair to other water right holders. Given the variability of pulse flow volumes and pulse flow triggers, a simple volume-based exemption is not a reasonable approach. NWFSCRC does not oppose the concept of exempting certain very small water rights from undue complexities. However, such an exemption should be based on the relative size of the diversion or impoundment right to the applicable flow standards at that location. Rather than a one-size-fits-all standard, a standard should be adopted that compares the authorized storage or diversion to the size, in terms of volume and pulse flow trigger rate, of the protected pulse at that location. NWFSCRC suggests the following language in §298.285: "(a) For water right permits with an authorization to store an annual amount that is greater than 20% of the smallest applicable pulse flow volume at the location of the storage authorization or to divert at a rate that is greater than 20% of the smallest applicable pulse flow trigger rate at the location of the authorized diversion in the Sabine and Neches river basins, and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to comply with the environmental flow standards of this subchapter." and in "(b) For water right permits with an authorization to store an annual amount that is equal to or less than 20% of the smallest applicable pulse flow volume at the location of the storage authorization or to divert at a rate that is equal to or less than 20% of the smallest applicable pulse flow trigger rate at the location of the authorized diversion in the Sabine and Neches river basins, and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to protect the environmental flow standards of this subchapter; however, no special conditions are necessary to preserve or pass high flow pulses unless the annual storage or diversion right exceeds 20,000 acre-feet."

Time lag effects and tributary stream effects would make using a percentage of the pulse flow volume inappropriate for translating the impacts of specific diversion rates for individual water rights into impacts on downstream pulse flow conditions. A water right diversion of 10,000 acre-feet would be unlikely to occur over a small number of days. In the event that such a situation occurred, only one pulse event would likely be impacted. Using a maximum diversion amount is a more straightforward method for determining whether pulse flow requirements should be included in special conditions of a water right permit. The rule was not modified in response to this comment.

One individual comments about §298.285 that 10,000 acre-feet is an incredible amount of water to allow to be diverted or stored without any special conditions for environmental flows (10,000 acre-feet is 3,258,514,000 gallons of water per year) and urges

EXHIBIT 1

TCEQ to reduce this amount to 500 acre-feet (which is still 162,925,700 gallons per year) so that more water rights permit holders are made responsible for the protection of our streams, rivers, and bays and estuaries from the cumulative impacts of water diversions and storage.

All water right applications that are subject to the standards would include special conditions to protect the standards. Smaller water rights, requesting an amount less than 10,000 acre-feet, would still be subject to subsistence and base flow standards under the adopted rule. The rule was not modified in response to this comment.

NWFSCRC comments that the proposed language in §298.285(a) and (b) that purports to establish a second balancing test in incorporating permit conditions is not consistent with TWC, §11.147(e-3). The language seems to suggest that the commission would undertake a balancing exercise and discretionary review in the permitting process through which TCEQ could decide not to include permit conditions necessary to protect the adopted environmental flow standards. For permits to which the standards apply, TCEQ must apply those standards in developing permit conditions. TCEQ does not have discretion to decide to apply the standards "to the maximum extent reasonable, considering other public interests and other relevant factors" as suggested in the proposed rule. A balancing test has already been incorporated into the adoption of the standards. This language would introduce a second layer of balancing and would necessitate individualized permit reviews while establishing the flow standards as a cap on environmental flow protection. That is not what HB 3/SB 3 provides. To avoid that inconsistency with the statutory directive, the following language should be deleted: "to the maximum extent reasonable, considering other public interests and other relevant factors."

The commission agrees, and §298.285 has been modified to remove this language.

NWFSCRC comments that the reference to flow restriction special conditions that are adequate to "protect" environmental flow standards is a bit unclear. The term "comply with" should be substituted for "protect." Although it might be accurate to refer to protection of an environmental flow set aside, it is not clear how permit conditions would "protect" an environmental flow standard.

The commission respectfully disagrees. Special conditions that protect environmental flow standards would be those special conditions that ensure compliance with the standards. The rule was not modified in response to this comment.

UNRMWA comments that the executive director needs to clarify how the rules will apply to existing permits that authorize a new appropriation of water. In particular, UNRMWA has concerns regarding how interbasin transfers will be addressed with respect to the rules. As proposed, it appears that environmental flow standards will come with a time priority, and given the provision of TWC, §11.085(s), this may have unintended consequences for moving existing appropriations of water between basins. While it is clear why set-asides may come with priority in a basin, it is unclear why environmental flow standards should be treated with priority. The executive director needs to consider only applying priority for standards as a tool in water availability modeling and developing special conditions for permit - not in adhering to priority under prior appropriation doctrine.

The commission responds that the priority date for the environmental flow standards will be used in water rights permitting in the water availability model runs used for water availability analyses. The function of a priority date in the water availability model is to ensure that water rights are processed in seniority order. With respect to environmental flow standards, using a priority date in the water availability model ensures that the standards do not apply to existing senior water rights and do apply to new appropriations of water. By including the standards in the WAM with a priority date, the commission protects pulse flow standards from being permitted to smaller applicants to whom the standards apply. In addition, including the standards in the WAM with a priority date ensures that new appropriations will not affect downstream flow standards. The priority date has no other purpose. The commission has clarified the language in §298.265 in response to this and other comments. A water availability analysis would not be performed in the receiving basin for water that is already appropriated in the basin of origin and the adopted standards would not apply in the receiving basin.

§298.290, Schedule for Revision of Standards

One individual comments that ten years is too long for TCEQ to wait to re-examine environmental flow standards. A lot can happen in ten years and the TCEQ must ensure that streams, rivers, and bays and estuaries are protected by using a shorter timeframe to re-examine environmental flow standards. Since the water planning cycle is five years, the re-examination should occur just before each Regional Water Planning Group completes its updated Regional Water Plan.

The commission acknowledges the comment but notes that it is prohibited by HB 3/SB 3 from environmental flows rulemaking more frequently than once every ten years unless a stakeholder workplan approved by the advisory group calls for a more frequent schedule. At this time there is not an approved workplan for this basin and bay system. The work groups can set a more frequent schedule if they choose to. The rule was not modified in response to this comment.

BRA comments that scientific studies performed under the SB 2 process should be incorporated into the SB 3 recommendations. It is recommended that if the HB 2/SB 2 process cannot be incorporated into the process, the adaptive management process have a five-year mandatory review period and revision of the regulations by river basin until all data gaps are filled. Additionally, funding should be provided to generate the science identified by the BBESTs to fill the data gaps and make necessary, consequential adjustments to the regulations during adaptive management reviews.

The commission acknowledges the comment but notes that it is prohibited by HB 3/SB 3 from environmental flows rulemaking more frequently than once every ten years unless a stakeholder workplan approved by the advisory group calls for a more frequent schedule. At this time there is not an approved workplan for this basin and bay system. The work groups can set a more frequent schedule if they choose to. The rule was not modified in response to this comment.

SRA Texas and Others comment that the commission notes that it is prohibited from providing a rulemaking process that occurs more frequently than once every ten years unless the stakeholders' workplan approved by the Advisory Group under TWC, §11.02362(p), calls for a more frequent schedule. Considering the historical frequency of actions of the Advisory Group, the commenters suggest that the commission strongly consider any schedule recommended by the SNBBASC, regardless of its status of approval by the Advisory Group.

EXHIBIT 1

The commission notes that it is prohibited by HB 3/SB 3 from providing that the rulemaking process occur more frequently than once every ten years unless a stakeholder work plan approved by the advisory group calls for a more frequent schedule. At this time there is not an approved workplan for this basin and bay system. The work groups can set a more frequent schedule if they choose to. The rule was not modified in response to this comment.

NWFSCRC notes that the basic premise of SB 3 is that participation by a balanced representation of stakeholder interests is essential to an appropriate outcome. That basic policy is memorialized in TWC, §11.0235(d-6) and §11.02362(f)(1). That policy also must be reflected in the rules governing the commission's process for revisions of the environmental flow standards. Accordingly, the last sentence of this proposed section should be changed to read as follows: "The rulemaking process shall include participation by a balanced representation of stakeholders. .. ."

The commission agrees, and the rule was modified to reflect this comment.

SUBCHAPTER A. GENERAL PROVISIONS

30 TAC §§298.1, 298.5, 298.10, 298.15, 298.20, 298.25

Statutory Authority

The new sections are adopted under Texas Water Code (TWC), §§5.102, concerning General Powers; 5.103, concerning Rules; and 5.105 concerning General Policy, which authorize the commission to adopt rules as necessary to carry out its power and duties under the TWC. The new sections are also adopted under TWC, §§5.506, concerning Emergency Suspension of Permit Condition Relating to, and Emergency Authority to Make Available Water Set Aside For, Beneficial Inflows to Affected Bays and Estuaries and Instream Uses; 11.0235, concerning Policy Regarding Waters of the State; 11.147, concerning Effects of Permit on Bays and Estuaries and Instream Uses; 11.148, concerning Emergency Suspension of Permit Conditions and Emergency Authority to Make Available Water Set Aside for Environmental Flows; and 11.1471, concerning Environmental Flow Standards and Set-Asides.

The adopted new sections implement TWC, §§5.102, 5.103, 5.105, 5.506, 11.0235, 11.147, 11.148, and 11.1471.

§298.1. Definitions.

The following words or phrases, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise, or unless a subchapter has a different definition that only applies to that subchapter:

(1) Affected person--a person who meets the requirements of §55.256 of this title (relating to Determination of Affected Person) for the specific environmental condition proposed to be adjusted.

(2) Base flow--the range of average flow conditions, in the absence of significant rainfall events, that may vary depending on current weather patterns.

(3) Environmental flow regime--a schedule of flow quantities that reflects seasonal and yearly fluctuations that typically would vary geographically, by specific location in a watershed, and that are shown to be adequate to support a sound ecological environment and to maintain the productivity, extent, and persistence of key aquatic habitats in and along the affected water bodies.

(4) Environmental flow standards--those requirements contained in this chapter, adopted by the commission under Texas Water Code, §11.1471.

(5) Lower Rio Grande--the main stem of the Rio Grande, and its tributaries in Texas, from just above Falcon Reservoir to the mouth of the Rio Grande.

(6) Measurement point--a specific geographical location on a watercourse where environmental flow standards are established.

(7) Middle Rio Grande--the main stem of the Rio Grande, and its tributaries in Texas, from just above Amistad Reservoir to just above Falcon Reservoir.

(8) Pulse or high flow pulse--relatively short-duration, high flows within the stream channel that occur during or immediately following a storm event.

(9) Set-aside-an amount of unappropriated water, if available, to be set aside to satisfy the environmental flow standards to the maximum extent reasonable when considering human water needs.

(10) Subsistence flow--the minimum streamflow needed during critical drought periods to maintain tolerable water quality conditions and to provide minimal aquatic habitat space for the survival and recolonization of aquatic organisms.

(11) USGS--United States Geological Survey.

(12) Water right holder--a person or entity that owns a valid certificate of adjudication, certified filing, or water right permit.

(13) Water right permit--a valid certificate of adjudication, certified filing, or water right permit. The term does not include exempt water uses, such as domestic and livestock water uses.

§298.10. Applicability.

(a) This chapter only relates to a permit for a new appropriation of water or to an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted, and the chapter applies only when there is an applicable adopted environmental flow standard and only to:

(1) Water appropriated under a permit for a new appropriation of water, the application for which was pending with the commission on September 1, 2007, or is filed with the commission on or after that date; or

(2) The increase in the amount of water authorized to be stored, taken, or diverted under an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted, and the application for which was pending with the commission on September 1, 2007, or was filed with the commission on or after that date.

(b) This chapter does not otherwise amend or restrict the commission's authority to impose special conditions on water right permits, including special conditions to protect environmental flows. The commission retains any and all authority to place special conditions on interbasin transfers; on amendments, such as an amendment to move a diversion point upstream; and on authorizations under Texas Water Code (TWC), §11.042 and §11.046, to protect environmental flows or senior water rights. This chapter also does not expand the commission's authority to impose special conditions on water right permits beyond the authority granted to the commission in TWC, Chapter 11, or expressed by the commission in Chapter 297 of this title (relating to Water Rights, Substantive).

§298.15. Special Conditions to Protect Environmental Flow Standards and Set-Asides.

EXHIBIT 1

(a) The commission may not grant an appropriation for state water that has been set aside by the commission under this chapter to meet downstream instream flow needs or freshwater inflow needs. The commission may not issue a permit for a new appropriation or an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted, after the adoption of an environmental flow set-aside, if the issuance of the permit or amendment would impair an environmental flow set-aside established by this chapter.

(b) For purposes of determining any environmental flow conditions in any water right permit application to which this chapter applies that are necessary to maintain: freshwater inflows to an affected bay and estuary system; existing instream uses and water quality of a stream or river; or fish and wildlife habitats; the commission shall apply any applicable environmental flow standard, including any environmental flow set-aside, adopted in this chapter, instead of considering the factors specified in Texas Water Code, §11.147(b) - (e) and §§297.53 - 297.56 of this title (relating to Habitat Mitigation; Water Quality Effects; Estuarine Considerations; and Instream Uses, respectively).

(c) The commission will incorporate into every water right permit any condition, restriction, limitation, or provision, as provided in Chapter 297 of this title (relating to Water Rights, Substantive) that is reasonably necessary to protect environmental flow standards.

§298.20. Priority Date for Set-Asides.

An environmental flow standard or set-aside established under this chapter for a river basin and bay system other than the middle and lower Rio Grande shall be assigned a priority date corresponding to the date the commission receives environmental flow regime recommendations from the applicable basin and bay expert science team as set forth in these rules. This priority date shall be included in the appropriate water availability models maintained by the commission in connection with an application for a permit for a new appropriation or for an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted. The priority date for the environmental flow standards will be used in the water availability determination for a new appropriation or for an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted and has no other purpose.

§298.25. Process for Adjusting Environmental Flow Conditions in Certain Permits.

(a) On the petition of the executive director, the commission may amend a water right permit for a new appropriation or an amendment for an increase in the amount of water authorized to be stored, taken, or diverted issued after September 1, 2007, in order to adjust environmental flow special conditions, if the commission determines, through the process set forth herein, that such an adjustment is appropriate to achieve compliance with applicable environmental flow standards adopted in this chapter.

(b) A petition to adjust an environmental flow special condition shall be prepared by the executive director in the manner of an original application for a permit and have a title that indicates that it is to adjust environmental flow special conditions. The petition shall be filed with the Chief Clerk in the same manner as a water right permit application.

(c) Notice of the petition, with an opportunity for public comment, shall be mailed by the executive director by first-class mail, postage prepaid, to each water right holder of record within the basin, to the Texas Parks and Wildlife Department, and to all navigation districts within the river basin concerned not less than 30 days before the date of action on the petition by the commission. The executive director will also cause a copy of the notice to be posted to the commission's Web site at least 30 days before the date of action on the petition by the commission. A temporary outage of service of the commission's Web site during the 30-day notice period does not prevent the commission's consideration of the petition. The inadvertent failure of the executive director to mail notice to a navigation district that is not an appropriator of water does not prevent the commission's consideration of the petition.

(d) The commission may act on the petition without holding a public hearing. The commission shall consider all written public comment received on the petition prior to the commission's decision on the petition.

(e) A motion for rehearing of the commission's action must be filed no later than 23 days after the Chief Clerk mails (or otherwise transmits) the decision on the petition and provides instructions for requesting that the commission reconsider the decision or hold a contested case hearing. The following may file a motion for rehearing under this chapter:

(1) the commission on its own motion;

(2) the executive director;

(3) the water right holder;

(4) Texas Parks and Wildlife Department; and

(5) affected persons, when authorized by law.

(f) A motion for rehearing by an affected person must be in writing, and must be filed with the Chief Clerk within the time provided by subsection (e) of this section.

(g) If the motion for rehearing is granted, the commission may refer the matter to the State Office of Administrative Hearings.

(h) The environmental flow adjustment, in combination with any previous adjustments made under this section may not increase the amount of the environmental flow pass-through or release requirement for a water right permit by more than 12.5% of the annualized total of that requirement contained in the permit as issued or of that requirement contained in the amended water right and applicable only to the increase in the amount of water authorized to be stored, taken, or diverted under the amended water right permit. Any new permit conditions must be consistent with the environmental flow standards to the maximum extent practicable.

(1) For environmental flow conditions expressed in cubic feet per second, the maximum adjustment is calculated by summing the monthly rate in cubic feet per second for each month and then multiplying the sum of the monthly rates in the original standard in cubic feet per second by 12.5% to generate the maximum annualized adjustment expressed in cubic feet per second. The adjustment, in combination with all previous adjustments, cannot increase the annualized flow requirement above the sum of the original annualized flow requirement plus the original 12.5% adjustment.

(2) For environmental flow conditions, such as a pulse, expressed with multiple characteristics, such as frequency, peak flow, volume, and duration, the maximum adjustment is calculated by summing the original pulse volume for each season and multiplying that volume by 12.5% to generate the maximum annualized adjustment amount. The combination of all previous adjustments, and any new adjustment, cannot increase the annualized pulse volume above the sum of the original annualized pulse volume requirement plus the original 12.5% adjustment.

EXHIBIT 1

(i) The environmental flow adjustment must be based on appropriate consideration of the priority dates and diversion locations of any other water rights granted in the same river basin that are subject to adjustment under this section.

(j) The environmental flow adjustment must be based on appropriate consideration of any voluntary contributions to the Texas Water Trust, and of any voluntary amendments to existing water rights to change the use of a specified quantity of water to or add a use of a specified quantity of water for instream flows dedicated to environmental needs or bay and estuary inflows as authorized by Texas Water Code, §11.0237(a), that actually contribute toward meeting the applicable environmental flow standard. Any water right holder who makes a contribution or amends a water right as described herein is entitled to appropriate credit for the benefits of the contribution or amendment against the adjustment of the holder's existing water right permit conditions under this section.

(1) Water rights that are voluntarily contributed to the Texas Water Trust or voluntary amendments to change the use where the total volume of water is available in at least 75% of the years, are entitled to credit the contribution or amendment against the adjustment only by spreading out the amount contributed evenly over the year, or, if the underlying permit limits the portion of the year when use is authorized, over that portion of the year when use is authorized in the underlying permit; and

(2) Water rights that are voluntarily contributed to the Texas Water Trust or voluntary amendments to change the use where the reliability of the water does not meet the criteria that the water is available in at least 75% of the years, or amendments to add a use of a specified quantity of water for instream flows dedicated to environmental needs or bay and estuary inflows are entitled to credit the contribution or amendment against the adjustment only by spreading out one half of the amount contributed evenly over the year, or, if the underlying permit limits the portion of the year when use is authorized, over that portion of the year when use is authorized in the underlying permit; and

(3) For water rights that are voluntarily contributed to the Texas Water Trust and include storage, and providing that the underlying water right authorizes diversion from that storage, allowing the water to be provided in at least 75% of the years, the commission may allow credit for the contribution without spreading the amount of the contribution evenly across the year if the commission determines that doing so would better ensure protection of the standards and any applicable environmental flow set-aside.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

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Robert Martinez
Director, Environmental Law Division
Texas Commission on Environmental Quality
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SUBCHAPTER B. TRINITY AND SAN JACINTO RIVERS, AND GALVESTON BAY

30 TAC §§298.200, 298.205, 298.210, 298.215, 298.220, 298.225, 298.230, 298.240

Statutory Authority

The new sections are adopted under Texas Water Code (TWC), §§5.102, concerning General Powers; 5.103, concerning Rules; and 5.105 concerning General Policy, which authorize the commission to adopt rules as necessary to carry out its power and duties under the TWC. The new sections are also adopted under TWC, §§5.506, concerning Emergency Suspension of Permit Condition Relating to, and Emergency Authority to Make Available Water Set Aside For, Beneficial Inflows to Affected Bays and Estuaries and Instream Uses; 11.0235, concerning Policy Regarding Waters of the State; 11.147, concerning Effects of Permit on Bays and Estuaries and Instream Uses; 11.148, concerning Emergency Suspension of Permit Conditions and Emergency Authority to Make Available Water Set Aside for Environmental Flows; and 11.1471, concerning Environmental Flow Standards and Set-Asides.

The adopted new sections implement TWC, §§5.102, 5.103, 5.105, 5.506, 11.0235, 11.147, 11.148, and 11.1471.

§298.200. Applicability and Purpose.

This subchapter contains the environmental flow standards for the Trinity and San Jacinto rivers, their associated tributaries, and Galveston Bay. In case of a direct conflict, provisions of this subchapter control over any provisions of Subchapter A of this chapter (relating to General Provisions) for purposes of environmental flow standards and regulation in the Trinity and San Jacinto rivers, their associated tributaries, and Galveston Bay.

§298.205. Definitions.

The following words or phrases have the following meanings, in this subchapter, unless the context clearly indicates otherwise:

(1) Galveston Bay--the estuary system consisting of Galveston Bay and Trinity Bay, along with smaller associated bays including East Bay and West Bay.

(2) Fall--the period of time September through November, inclusive.

(3) Spring--the period of time March through May, inclusive.

(4) Sound ecological environment--a resilient, functioning ecosystem characterized by intact, natural processes, and a balanced, integrated, and adaptive community of organisms comparable to that of the natural habitat of a region.

(5) Summer--the period of time June through August, inclusive.

(6) Winter--the period of time December through February, inclusive.

§298.215. Set-Asides and Standards Priority Date.

The priority date for the environmental flow standards and set-asides established by this subchapter is December 1, 2009. The priority date for the environmental flow standards will be used in the water availability determination for a new appropriation or for an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted and has no other purpose.

§298.220. Schedule of Flow Quantities.

(a) The environmental flow standards adopted by this subchapter constitute a schedule of flow quantities made up of subsistence

EXHIBIT 1

flow, base flow, and one level of high flow pulses. Environmental flow standards are established at six separate measurement locations in §298.225 of this title (relating to Environmental Flow Standards).

(b) Subsistence flow. The applicable subsistence flow standard varies depending on the seasons as described in §298.205 of this title (relating to Definitions). For a water right holder to which an environmental flow standard applies, at a measurement point that applies to the water right, the water right holder may not store or divert water unless the flow at the measurement point is above the applicable subsistence flow standard for that point. If the flow at the measurement point is above the subsistence flow standard but below the applicable base flow standard, then the water right holder may divert or store water according to its permit, subject to senior and superior water rights, as long as the flow at the measurement point does not fall below the applicable subsistence flow standard.

(c) Base flow. The applicable base flow standard varies depending on the seasons as described in §298.205 of this title. For a water right holder to which an environmental flow standard applies, at a measurement point that applies to the water right, the water right is subject to a base flow standard. For a water right holder to which an environmental flow standard applies, at a measurement point that applies to the water right, when the flow at that point is above the applicable base flow standard, and below the applicable high flow pulse trigger level, the water right holder may store or divert water according to its permit, subject to senior and superior water rights, as long as the flow at the measurement point does not fall below the applicable base flow standard.

(d) High flow pulses. High flow pulses are relatively short-duration, high flows within the watercourse that occur during or immediately following a storm event.

(1) Two pulses per season are to be passed (i.e., no storage or diversion by an applicable water right holder) if the flows are above the applicable base flow standard, and if the applicable high flow pulse trigger level is met at the measurement point. The water right holder shall not divert or store water except during times that streamflow at the applicable measurement point exceeds the applicable high flow pulse trigger level and until either the applicable volume amount has passed the measurement point or the applicable duration time has passed since the high flowpulse trigger level occurred.

(2) If the applicable high flow pulse trigger level does not occur in a season, then the water right holder need not stop storing or diverting water to produce a high flow pulse. The water right holder is not required to store water to be released later to produce a high flow pulse.

(3) With the exception of summer and fall, which are treated as a single season for purposes of pulse flow compliance, each season is independent of the preceding and subsequent seasons with respect to high flow pulse frequency.

(e) A water right owner that has stored water in accordance with the terms and conditions of its water right, including any applicable environmental flow requirement in effect at the time the water was stored, may divert, release, or use this water, even if the applicable environmental flow requirement is not met at the time of the subsequent diversion, release, or use of that stored water.

§298.225. Environmental Flow Standards.

(a) A water right application in the Trinity or San Jacinto river basins, which increases the amount of water authorized to be stored, taken or diverted as described in §298.10 of this title (relating to Applicability), shall not reduce the long-term frequency on either a seasonal or annual basis at which the volumes of freshwater inflows, to Galveston Bay, as described in the figure in this subsection, occur.
Figure: 30 TAC §298.225(a)

(b) The freshwater inflow standards are subject to adjustment, in accordance with Texas Water Code, 11.147(e-1). The adjustment for each inflow level is calculated by adding the volumes for all of the seasons in that inflow level for the entire year and multiplying that annual total volume by 12.5% to generate the maximum adjustment amount. The maximum adjustment, including the effect of any previous adjustments, cannot increase the total volume for that inflow level above the sum of the annual total of the original volume requirement for that level plus the 12.5% adjustment.

(c) The following environmental flow standards are established for the following described measurement points:

(1) West Fork Trinity River near Grand Prairie, Texas, generally described as United States Geological Survey (USGS) gage 08049500, and more specifically described as Latitude 32° 45' 45"; Longitude 96° 59' 40".
Figure: 30 TAC §298.225(c)(1)

(2) Trinity River at Dallas, Texas, generally described as USGS gage 08057000, and more specifically described as Latitude 32° 46' 29"; Longitude 96° 49' 18".
Figure: 30 TAC §298.225(c)(2)

(3) Trinity River near Oakwood, Texas, generally described as USGS gage 08065000, and more specifically described as Latitude 31° 38' 54"; Longitude 95° 47' 21".
Figure: 30 TAC §298.225(c)(3)

(4) Trinity River near Romayor, Texas, generally described as USGS gage 08066500, and more specifically described as Latitude 30° 25' 30"; Longitude 94° 51' 02".
Figure: 30 TAC §298.225(c)(4)

(5) East Fork San Jacinto River near Cleveland, Texas, generally described as USGS gage 08070000, and more specifically described as Latitude 30° 20' 11"; Longitude 95° 06' 14".
Figure: 30 TAC §298.225(c)(5)

(6) West Fork San Jacinto River near Conroe, Texas, generally described as USGS gage 08068000, and more specifically described as Latitude 30° 14' 40"; Longitude 95° 27' 25".
Figure: 30 TAC §298.225(c)(6)

§298.230. Water Right Permit Conditions.

(a) For water right permits with an authorization to store or divert more than 10,000 acre-feet per year in the Trinity and San Jacinto River basins, and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to protect the environmental flow standards of this subchapter.

(b) For water right permits with an authorization to store or divert 10,000 acre-feet or less per year in the Trinity and San Jacinto river basins and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to protect the environmental flow standards of this subchapter; however, no special conditions are necessary to preserve or pass high flow pulses.

§298.240. Schedule for Revision of Standards.

The environmental flow standards or environmental flow set-asides adopted herein for the Trinity and San Jacinto rivers, their associated

EXHIBIT 1

tributaries, and Galveston Bay may be revised by the commission through the rulemaking process. The final revised rules shall be effective no sooner than ten years from the effective date of this rule, unless the Trinity and San Jacinto basin and bay area stakeholder committee submits a work plan approved by the advisory group under Texas Water Code, §11.02362(p), that provides for a periodic review to occur more frequently. In that event, the commission may provide for the rulemaking process to be undertaken in conjunction with the periodic review if the commission determines that schedule to be appropriate. The rulemaking process shall include participation by a balanced representation of stakeholders having interests in the Trinity and San Jacinto Rivers, their associated tributaries, and Galveston Bay.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Robert Martinez
Director, Environmental Law Division
Texas Commission on Environmental Quality
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SUBCHAPTER C. SABINE AND NECHES RIVERS, AND SABINE LAKE BAY

30 TAC §§298.250, 298.255, 298.260, 298.265, 298.275, 298.280, 298.285, 298.290

Statutory Authority

The new sections are adopted under Texas Water Code (TWC), §§5.102, concerning General Powers; 5.103, concerning Rules; and 5.105 concerning General Policy, which authorize the commission to adopt rules as necessary to carry out its power and duties under the TWC. The new sections are also adopted under TWC, §§5.506, concerning Emergency Suspension of Permit Condition Relating to, and Emergency Authority to Make Available Water Set Aside For, Beneficial Inflows to Affected Bays and Estuaries and Instream Uses; 11.0235, concerning Policy Regarding Waters of the State; 11.147, concerning Effects of Permit on Bays and Estuaries and Instream Uses; 11.148, concerning Emergency Suspension of Permit Conditions and Emergency Authority to Make Available Water Set Aside for Environmental Flows; and 11.1471, concerning Environmental Flow Standards and Set-Asides.

The adopted new sections implement TWC, §§5.102, 5.103, 5.105, 5.506, 11.0235, 11.147, 11.148, and 11.1471.

§298.250. Applicability and Purpose.

This subchapter contains the environmental flow standards for the Sabine and Neches Rivers, their associated tributaries, and Sabine Lake Bay. In case of a direct conflict, provisions of this subchapter control over any provisions of Subchapter A of this chapter (relating to General Provisions) for purposes of environmental flow standards and regulation in the Sabine and Neches Rivers, their associated tributaries, and Sabine Lake Bay.

§298.255. Definitions.

The following words or phrases have the following meanings in this subchapter, unless the context clearly indicates otherwise:

(1) Fall--the period of time October through December, inclusive.

(2) Spring--the period of time April through June, inclusive.

(3) Sound ecological environment--an ecological environment that: supports a healthy diversity of fish and other aquatic life; sustains a full complement of important species; provides for all major habitat types including rivers and streams, reservoirs, and estuaries; sustains key ecosystem processes; and maintains water quality adequate for aquatic life.

(4) Summer--the period of time July through September, inclusive.

(5) Winter--the period of time January through March, inclusive.

§298.260. Findings.

(a) The Sabine and Neches Rivers, their associated tributaries, Sabine Lake Bay, and the associated Sabine-Neches estuary are substantially sound ecological environments.

(b) The commission finds that these sound ecological environments can best be maintained by a set of flow standards that implement a schedule of flow quantities that contain subsistence flow, base flow, and one level of high flow pulses at defined measurement points. Minimum flow levels for these components will vary by season and by year since the amount of precipitation and, therefore, whether a system is in subsistence or base flow conditions, will vary from year to year and within a year from season to season, and the number of pulses protected will also vary with the amount of precipitation.

§298.265. Set-Asides and Standards Priority Date.

The priority date for the environmental flow standards and set-asides established by this subchapter is November 30, 2009. The priority date for the environmental flow standards will be used in the water availability determination for a new appropriation or for an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted and has no other purpose.

§298.275. Schedule of Flow Quantities.

(a) The environmental flow standards adopted by this subchapter constitute a schedule of flow quantities made up of subsistence flow, base flow, and one level of high flow pulses. Environmental flow standards are established for ten measurement points in §298.280 of this title (relating to Environmental Flow Standards) and this section.

(b) Subsistence flow. The applicable subsistence flow standard varies depending on the seasons as described in §298.255 of this title (relating to Definitions). For a water right holder to which an environmental flow standard applies, at a measurement point that applies to the water right, the water right holder may not store or divert water, unless the flow at the measurement point is above the applicable subsistence flow standard for that point. If the flow at the measurement point is above the subsistence flow standard but below the applicable base flow standard, then the water right holder may divert or store water according to its permit, subject to senior and superior water rights, as long as the flow at the measurement point does not fall below the applicable subsistence flow standard.

(c) Base flow. The applicable base flow level varies depending on the seasons as described in §298.255 of this title. For a water right holder to which an environmental flow standard applies, at a measurement point that applies to the water right, the water right holder is

EXHIBIT 1

subject to a base flow standard. For a water right holder to which an environmental flow standard applies, at a measurement point that applies to the water right, when the flow at the measurement point is above the applicable base flow standard, but below any applicable high flow pulse trigger levels, the water right holder may store or divert water according to its permit, subject to senior and superior water rights, as long as the flow at the measurement point does not fall below the applicable base flow standard.

(d) High flow pulses. High flow pulses are relatively short-duration, high flows within the watercourse that occur during or immediately following a storm event. They flush fine sediment deposits and waste products, restore normal water quality following prolonged low flows, and provide longitudinal connectivity for species movement along the river.

(1) Two pulses per season are to be passed during the Spring and Fall seasons and one pulse per season is to be passed during the Winter and Summer seasons (i.e., no storage or diversion by an applicable water right holder), if the flows are above the applicable base flow standard, and if the applicable high flow pulse trigger level is met at the measurement point. The water right holder shall not divert or store water except during times that streamflow at the applicable measurement point exceeds the applicable high flow pulse trigger level and until either the applicable volume amount has passed the measurement point, or the duration time has passed since the high flow pulse trigger level occurred.

(2) If the applicable high flow pulse flow trigger level does not occur in a season, then the water right holder need not stop storing or diverting to produce a high flow pulse. The water right holder is not required to release water lawfully stored to produce a high flow pulse.

(3) Each season is independent of the preceding and subsequent seasons with respect to high flow pulse frequency.

(e) A water right owner that has stored water in accordance with the terms and conditions of its water right, including any applicable environmental flow requirement in effect at the time the water was stored, may divert, release, or use this water, even if the applicable environmental flow requirement is not met at the time of the subsequent diversion, release, or use of that stored water.

§298.280. Environmental Flow Standards.

The following environmental flow standards are established for the following described measurement points:

(1) Big Sandy Creek near Big Sandy, Texas, generally described as United States Geological Survey (USGS) gage 08019500, and more particularly described as Latitude 32° 36' 14"; Longitude 95° 05' 29".
Figure: 30 TAC §298.280(1)

(2) Sabine River near Gladewater, Texas, generally described as USGS gage 08020000, and more particularly described as Latitude 32° 31' 37"; Longitude 94° 57' 36".
Figure: 30 TAC §298.280(2)

(3) Sabine River near Beckville, Texas, generally described as USGS gage 08022040, and more particularly described as Latitude 32° 19' 38"; Longitude 94° 21' 12".
Figure: 30 TAC §298.280(3)

(4) Big Cow Creek near Newton, Texas, generally described as USGS gage 08029500, and more particularly described as Latitude 30° 49' 08"; Longitude 93° 47' 08".
Figure: 30 TAC §298.280(4)

(5) Sabine River near Ruliff, Texas generally described as USGS gage 08030500, and more particularly described as Latitude 30° 18' 13"; Longitude 93° 44' 37".
Figure: 30 TAC §298.280(5)

(6) Neches River at Neches, Texas, generally described as USGS gage 08032000, and more particularly described as Latitude 31° 53' 32"; Longitude 95° 25' 50".
Figure: 30 TAC §298.280(6)

(7) Neches River near Rockland, Texas, generally described as USGS gage 08033500, and more particularly described as Latitude 31° 01' 30"; Longitude 94° 23' 58".
Figure: 30 TAC §298.280(7)

(8) Angelina River, near Alto, Texas, generally described as USGS gage 08036500, and more particularly described as Latitude 31° 40' 10"; Longitude 94° 57' 24".
Figure: 30 TAC §298.280(8)

(9) Neches River at Evadale, Texas, generally described as USGS gage 08041000, and more particularly described as Latitude 30° 21' 20"; Longitude 94° 05' 35".
Figure: 30 TAC §298.280(9)

(10) Village Creek near Kountze, Texas, generally described as USGS gage 08041500, and more particularly described as Latitude 30° 23' 52"; Longitude 94° 15' 48".
Figure: 30 TAC §298.280(10)

§298.285. Water Right Permit Conditions.

(a) For water right permits with an authorization to store or divert more than 10,000 acre-feet per year in the Sabine and Neches river basins and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to protect the environmental flow standards of this subchapter.

(b) For water right permits with an authorization to store or divert 10,000 acre-feet or less per year in the Sabine and Neches river basins and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to protect the environmental flow standards of this subchapter; however, no special conditions are necessary to preserve or pass high flow pulses.

§298.290. Schedule for Revision of Standards.

The environmental flow standards or environmental flow set-asides adopted herein for the Sabine and Neches Rivers, their associated tributaries, and Sabine Lake Bay may be revised by the commission through the rulemaking process. The final revised rules shall be effective no sooner than ten years from the effective date of this rule, unless the Sabine and Neches basin and bay area stakeholder committee submits a work plan approved by the advisory group under Texas Water Code, §11.02362(p), that provides for a periodic review to occur more frequently. In that event, the commission may provide for the rulemaking process to be undertaken in conjunction with the periodic review if the commission determines that schedule to be appropriate. The rulemaking process shall include participation by a balanced representation of stakeholders having interests in the Sabine and Neches Rivers, their associated tributaries, and Sabine Lake Bay.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 25, 2011.

EXHIBIT 1

TRD-201101540
Robert Martinez
Director, Environmental Law Division
Texas Commission on Environmental Quality
Effective date: May 15, 2011
Proposal publication date: November 19, 2010
For further information, please call: (512) 239-0779

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TITLE 31. NATURAL RESOURCES AND CONSERVATION

PART 2. TEXAS PARKS AND WILDLIFE DEPARTMENT

CHAPTER 51. EXECUTIVE
SUBCHAPTER I. HISTORICALLY UNDERUTILIZED BUSINESSES

31 TAC §51.171

The Texas Parks and Wildlife Commission adopts an amendment to §51.171, concerning Historically Underutilized Business Program, without changes to the proposed text as published in the February 25, 2011, issue of the *Texas Register* (36 TexReg 1231). The current rule adopts by reference the provisions of 1 TAC §§111.111 - 111.128, which until recently set forth the requirements to be followed by state agencies regarding historically underutilized businesses (HUB). Those provisions have been relocated to 34 TAC §§20.11 - 20.28, following the statutory reassignment of program oversight to the Comptroller of Public Accounts. The proposed amendment would update the reference and is nonsubstantive.

The amendment is necessary to ensure that department rules are in compliance with Government Code, §2161.003, which requires each state agency to adopt the rules of the Comptroller of Public Accounts concerning historically underutilized businesses as the agency's own rules.

The amendment will function by citing the portion of the Texas Administrative Code that is adopted by reference in order to comply with the provisions of Government Code, §6121.003.

The department received no comments opposing adoption of the proposed rule.

The department received five comments supporting adoption of the proposed rule.

No groups or associations commented in support of or opposition to the proposed rule.

The amendment is adopted under the authority of Government Code, §2161.003, which requires the commission to adopt rules promulgated by the Comptroller of Public Accounts under Government Code, §2161.0012.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 18, 2011.

TRD-201101468
Ann Bright
General Counsel
Texas Parks and Wildlife Department
Effective date: May 8, 2011
Proposal publication date: February 25, 2011
For further information, please call: (512) 389-4775

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CHAPTER 53. FINANCE
SUBCHAPTER I. COMBINATION AND SUPER-COMBINATION LICENSE REVENUE ALLOCATION

31 TAC §53.130

The Texas Parks and Wildlife Commission adopts an amendment to §53.130, concerning Combination and Super-Combination License Package Revenue Allocation, without changes to the proposed text as published in the February 25, 2011, issue of the *Texas Register* (36 TexReg 1232).

The amendment as adopted alters the title of the section and implements a new schedule for conducting the surveys used to determine stamp utilization by purchasers of super combination (hereafter, "supercombo") license packages, and implements an average-based approach for estimating the utilization of each stamp.

Under Parks and Wildlife Code, Chapter 43, no person may fish in saltwater without having purchased a saltwater fishing stamp, no person may fish in public freshwater without having purchased a freshwater fishing stamp, no person may hunt a migratory game bird without having purchased a migratory game bird stamp, no person may hunt an upland game bird without having purchased an upland game bird stamp, and no person may hunt deer, turkey, or javelina during an archery-only season without having purchased an archery stamp.

Under Parks and Wildlife Code, §11.302, all revenue received from the sale of all types of hunting licenses, fishing licenses, and stamps must be placed in the Game, Fish, and Water Safety Account. Parks and Wildlife Code, Chapter 43, further specifies how the department deposits and spends the proceeds from the sale of each type of stamp. Under §43.405, the net receipts from the sale of saltwater fishing stamps shall be spent for coastal fisheries enforcement and management. Under §43.656, the net proceeds from the sale of the migratory game bird stamp may be used only for the management of and research concerning migratory game birds; the acquisition, lease, or development of migratory game bird habitats; contracts, donations, and grants; and only in a manner that addresses the needs of migratory birds in this state. Under §43.658, the net proceeds from the sale of the upland game bird stamp may be used only for the management of and research concerning upland game birds; the acquisition, lease, or development of upland game bird habitats; contracts, donations, and grants; and only in a manner that addresses the needs of upland game birds in this state. Under §43.805, the net receipts from freshwater fishing stamp sales may be spent only for the repair, maintenance, renovation, or replacement of freshwater fish hatcheries in this state; the purchase of game fish that are stocked into the public water of this state; or the restoration, enhancement, or management of freshwater fish habitats. The net proceeds from the archery stamp must be deposited in the Game, Fish, and Water Safety Account and may be spent for

EXHIBIT 1

any purpose authorized for that account. As a result, the net proceeds from the sale of each stamp, except for the archery stamp, are to be used in a way that is directly related to the type of stamp sold.

Under Parks and Wildlife Code, Chapter 50, all combination licenses must be sold at less than the combined cost of the individual licenses, permits, or stamps included in the package, and the commission is required to allocate net revenue to individual stamp funds for the sale of stamps included in combination license packages according to a methodology that must incorporate the proportionate discounted prices of each stamp and the estimated utilization of each stamp. The super-combination license package is very popular, but because it is required by statute to be discounted, the department must allocate revenue to respective stamp accounts according to a formula.

Under the previous rule, the department conducted an annual survey of stamp utilization by purchasers of the supercombo licenses, which was then used to allocate supercombo revenue to individual stamp funds. Trends showed that there was little variation in survey results from year to year. The amendment eliminates the annual survey requirement and replaces it with a requirement for the survey to be conducted at three-year intervals. In addition, the amendment specifies that the calculation be performed using an average of the survey results from the most recent three, four or five surveys, rather than the survey results from one year only.

Parks and Wildlife Code, Chapter 50 requires the commission to allocate net revenue to individual stamp funds for the sale of stamps included in combination license packages. The previous rule addressed only supercombo licenses. The department also sells combination hunting and fishing license packages (a hunting license, a fishing license, and either the saltwater fishing stamp or the freshwater fishing stamp or both). The previous rule did not address those packages because the department allocates the full cost of each stamp (i.e., saltwater and/or freshwater) to the respective stamp fund on a per-sale basis; however, the amendment describes that allocation for the sake of clarity and compliance with statutory requirements. The amendment also retitles the section to accurately reflect the contents of the section.

The amendment will function by setting forth the methodology used by the department to allocate stamp revenue to respective stamp funds following their sale as part of a combo or supercombo license package.

The department received 24 comments opposing adoption of the proposed rule. All 24 comments stated that revenue from the sale of archery stamps should be spent only on archery-related activities. The department notes that the intent of this rulemaking is to address how revenue from the sale of combination licenses is allocated to the various licenses and stamps, but the rulemaking is not intended to address how stamp or license revenue is spent. Therefore, the department disagrees with the comment since the expenditure of stamp revenue is beyond the scope of this rulemaking. No changes were made as a result of the comments.

The department received 40 comments supporting adoption of the proposed amendment.

No groups or associations commented in support of or opposition to the adoption of the proposed amendment.

The amendment is adopted under Parks and Wildlife Code, §50.002, which authorizes the commission to establish fees for combination licenses.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 18, 2011.

TRD-201101469
Ann Bright
General Counsel
Texas Parks and Wildlife Department
Effective date: May 8, 2011
Proposal publication date: February 25, 2011
For further information, please call: (512) 389-4775

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TITLE 37. PUBLIC SAFETY AND CORRECTIONS

PART 1. TEXAS DEPARTMENT OF PUBLIC SAFETY

CHAPTER 4. COMMERCIAL VEHICLE REGULATIONS AND ENFORCEMENT PROCEDURES

SUBCHAPTER A. REGULATIONS GOVERNING HAZARDOUS MATERIALS

37 TAC §4.1

The Texas Department of Public Safety (the department) adopts amendments to §4.1, concerning Transportation of Hazardous Materials. This section is adopted without changes to the proposed text as published in the March 18, 2011, issue of the *Texas Register* (36 TexReg 1794).

This amendment updates the rule so that it reflects April 1, 2011 in subsection (a). This amendment is necessary to ensure that the Federal Motor Carrier Safety Regulations, incorporated by reference in this section, reflect all amendments and interpretations issued through that particular date for the subchapter.

No comments were received regarding the adoption of this amendment.

This amendment is adopted pursuant to Texas Transportation Code, §644.051, which authorizes the director to adopt rules regulating the safe transportation of hazardous materials and the safe operation of commercial motor vehicles; and authorizes the director to adopt all or part of the federal safety regulations, by reference.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 20, 2011.

TRD-201101508

EXHIBIT 1

D. Phillip Adkins
General Counsel
Texas Department of Public Safety
Effective date: May 10, 2011
Proposal publication date: March 18, 2011
For further information, please call: (512) 424-5848

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SUBCHAPTER B. REGULATIONS GOVERNING TRANSPORTATION SAFETY

37 TAC §4.11, §4.14

The Texas Department of Public Safety (the department) adopts amendments to §4.11 and §4.14, concerning Regulations Governing Transportation Safety. These sections are adopted without changes to the proposed text as published in the March 18, 2011, issue of the *Texas Register* (36 TexReg 1795).

The amendment to §4.11 is necessary to update the rule so that it reflects April 1, 2011 in subsection (a). This amendment ensures that the Federal Motor Carrier Safety Regulations, incorporated by reference in this section, reflect all amendments and interpretations issued through that particular date for the subchapter.

The amendment to §4.14 clarifies the primary commercial vehicle enforcement program purpose and includes additional provisions for municipal and county agencies to be certified to enforce federal safety regulations. Finally, this amendment clarifies that failure to comply with any provisions of this section is grounds to decertify a municipality's or county's authority to enforce federal safety regulations.

No comments were received regarding the adoption of these amendments.

These amendments are adopted pursuant to Texas Transportation Code, §644.051, which authorizes the director to adopt rules regulating the safe transportation of hazardous materials and the safe operation of commercial motor vehicles; and authorizes the director to adopt all or part of the federal safety regulations, by reference.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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D. Phillip Adkins
General Counsel
Texas Department of Public Safety
Effective date: May 10, 2011
Proposal publication date: March 18, 2011
For further information, please call: (512) 424-5848

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TITLE 40. SOCIAL SERVICES AND ASSISTANCE

PART 1. DEPARTMENT OF AGING AND DISABILITY SERVICES

CHAPTER 73. CIVIL RIGHTS

The Health and Human Services Commission (HHSC), on behalf of the Department of Aging and Disability Services (DADS), adopts the repeal of Chapter 73, Civil Rights, consisting of Subchapter A, Purpose and Application, §73.1 and §73.2; Subchapter B, Discrimination Prohibited, §73.100 and §73.101; Subchapter C, Civil Rights Responsibilities, §§73.200 - 73.212; Subchapter D, Dissemination of Information and Training, §§73.300 - 73.302; Subchapter E, Complaints of Discrimination, §§73.400 - 73.413; Subchapter F, Compliance Reviews and Standards, §73.500 and §73.501; and Subchapter G, Contract Compliance, §73.600. The repeal of Chapter 73 is adopted without changes to the proposal as published in the January 21, 2011, issue of the *Texas Register* (36 TexReg 224).

The HHSC Civil Rights Office is adopting rules regarding civil rights, found elsewhere in this issue of the *Texas Register,* that will apply to all health and human services agencies. Therefore rules in Chapter 73, concerning civil rights, will no longer be needed.

DADS received no comments regarding adoption of the repeal.

SUBCHAPTER A. PURPOSE AND APPLICATION

40 TAC §73.1, §73.2

The repeal is adopted under Texas Government Code, §531.0055, which provides that the HHSC executive commissioner shall adopt rules for the operation and provision of services by the health and human services agencies, including DADS; Texas Human Resources Code, §161.021, which provides that the Aging and Disability Services Council shall study and make recommendations to the HHSC executive commissioner and the DADS commissioner regarding rules governing the delivery of services to persons who are served or regulated by DADS.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on April 19, 2011.

TRD-201101490
Kenneth L. Owens
General Counsel
Department of Aging and Disability Services
Effective date: May 9, 2011
Proposal publication date: January 21, 2011
For further information, please call: (512) 438-3734

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SUBCHAPTER B. DISCRIMINATION PROHIBITED

40 TAC §73.100, §73.101

The repeal is adopted under Texas Government Code, §531.0055, which provides that the HHSC executive commissioner shall adopt rules for the operation and provision of services by the health and human services agencies, including DADS; Texas Human Resources Code, §161.021, which provides that the Aging and Disability Services Council shall study and make recommendations to the HHSC executive commissioner and the DADS commissioner regarding rules governing

EXHIBIT 1

the delivery of services to persons who are served or regulated by DADS.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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For further information, please call: (512) 438-3734

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SUBCHAPTER C. CIVIL RIGHTS RESPONSIBILITIES

40 TAC §§73.200 - 73.212

The repeal is adopted under Texas Government Code, §531.0055, which provides that the HHSC executive commissioner shall adopt rules for the operation and provision of services by the health and human services agencies, including DADS; Texas Human Resources Code, §161.021, which provides that the Aging and Disability Services Council shall study and make recommendations to the HHSC executive commissioner and the DADS commissioner regarding rules governing the delivery of services to persons who are served or regulated by DADS.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Department of Aging and Disability Services
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SUBCHAPTER D. DISSEMINATION OF INFORMATION AND TRAINING

40 TAC §§73.300 - 73.302

The repeal is adopted under Texas Government Code, §531.0055, which provides that the HHSC executive commissioner shall adopt rules for the operation and provision of services by the health and human services agencies, including DADS; Texas Human Resources Code, §161.021, which provides that the Aging and Disability Services Council shall study and make recommendations to the HHSC executive commissioner and the DADS commissioner regarding rules governing the delivery of services to persons who are served or regulated by DADS.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Department of Aging and Disability Services
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For further information, please call: (512) 438-3734

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SUBCHAPTER E. COMPLAINTS OF DISCRIMINATION

40 TAC §§73.400 - 73.413

The repeal is adopted under Texas Government Code, §531.0055, which provides that the HHSC executive commissioner shall adopt rules for the operation and provision of services by the health and human services agencies, including DADS; Texas Human Resources Code, §161.021, which provides that the Aging and Disability Services Council shall study and make recommendations to the HHSC executive commissioner and the DADS commissioner regarding rules governing the delivery of services to persons who are served or regulated by DADS.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Kenneth L. Owens
General Counsel
Department of Aging and Disability Services
Effective date: May 9, 2011
Proposal publication date: January 21, 2011
For further information, please call: (512) 438-3734

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SUBCHAPTER F. COMPLIANCE REVIEWS AND STANDARDS

40 TAC §73.500, §73.501

The repeal is adopted under Texas Government Code, §531.0055, which provides that the HHSC executive commissioner shall adopt rules for the operation and provision of services by the health and human services agencies, including DADS; Texas Human Resources Code, §161.021, which provides that the Aging and Disability Services Council shall study and make recommendations to the HHSC executive commissioner and the DADS commissioner regarding rules governing the delivery of services to persons who are served or regulated by DADS.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Effective date: May 9, 2011
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SUBCHAPTER G. CONTRACT COMPLIANCE

40 TAC §73.600

The repeal is adopted under Texas Government Code, §531.0055, which provides that the HHSC executive commissioner shall adopt rules for the operation and provision of services by the health and human services agencies, including DADS; Texas Human Resources Code, §161.021, which provides that the Aging and Disability Services Council shall study and make recommendations to the HHSC executive commissioner and the DADS commissioner regarding rules governing the delivery of services to persons who are served or regulated by DADS.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Kenneth L. Owens
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Effective date: May 9, 2011
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EXHIBIT 1